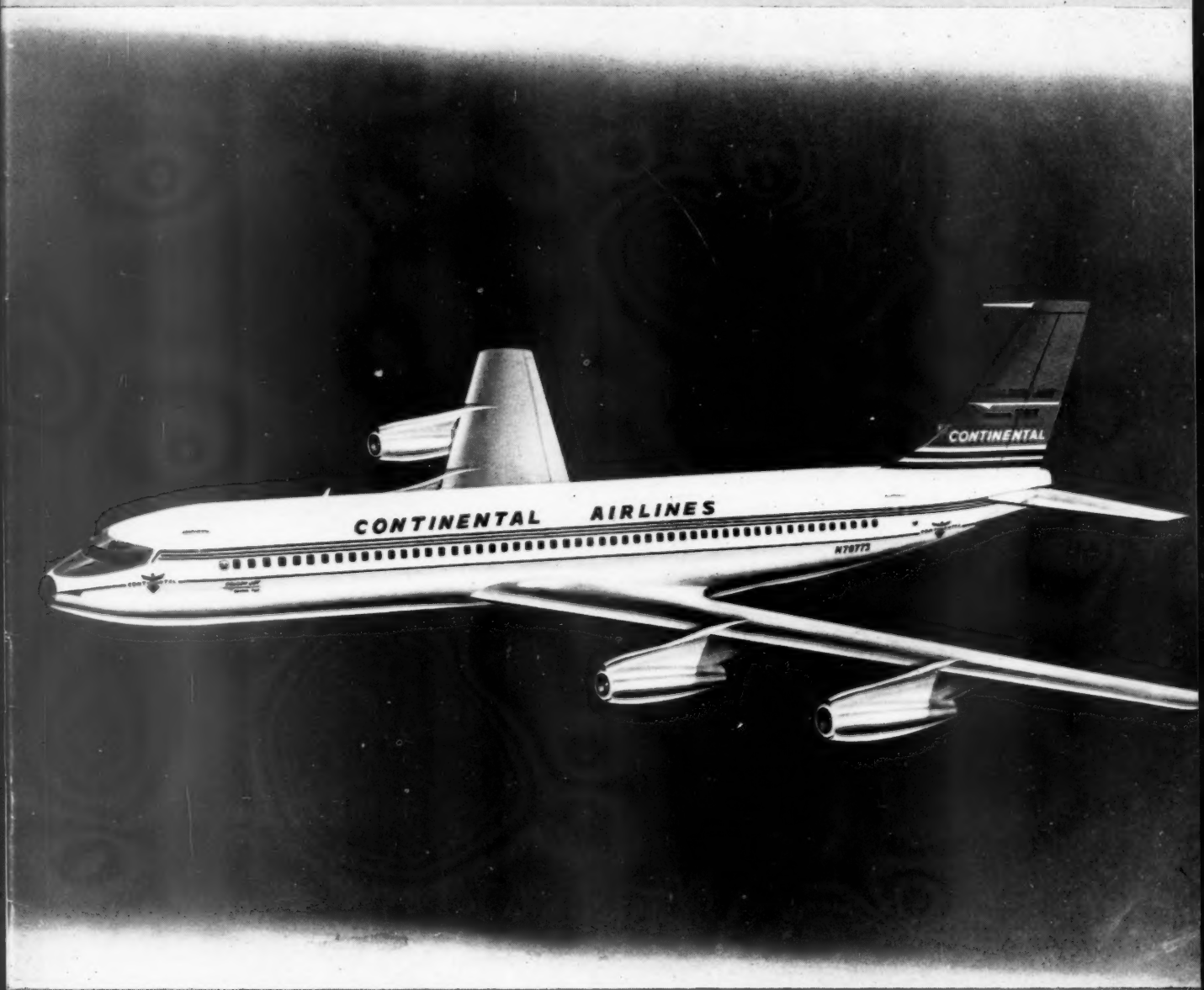
JUNE, 1959

UNIVERSITY OF LOUISVILLE
JUL 8 1959

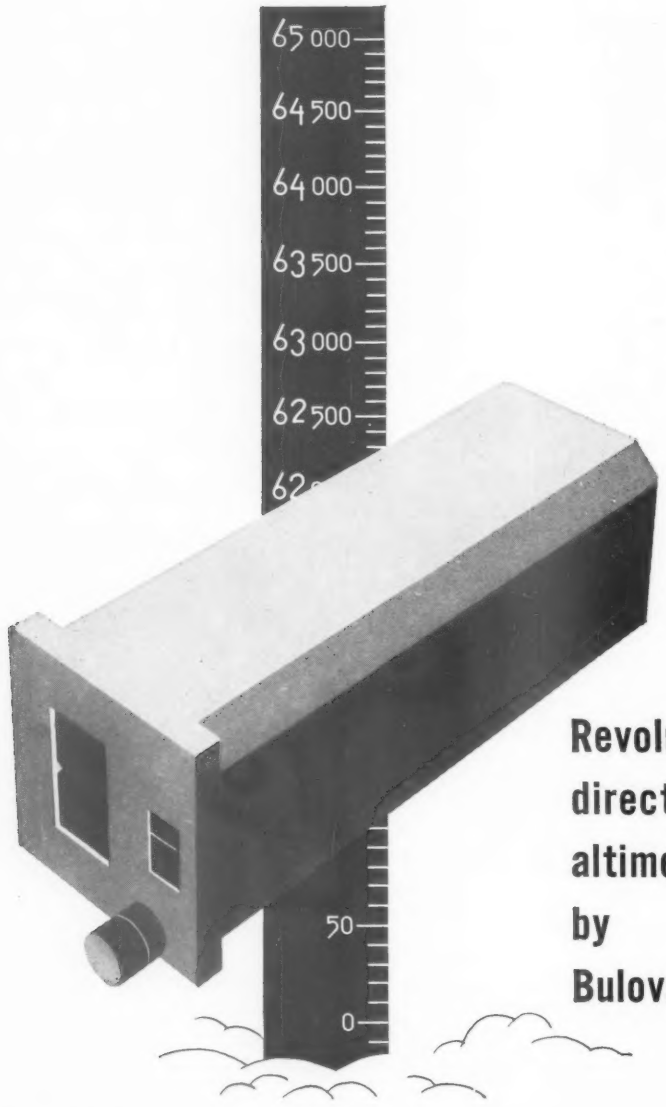
THE AIR LINE PILOT

In This Issue

- It's What's Up Front That Counts
- What Are Results Of Carrier Aid Pact?
- Traffic Control And Atmospheric Turbulence



Continental's "Golden Jet" Which Inaugurated 707 Service On June 8



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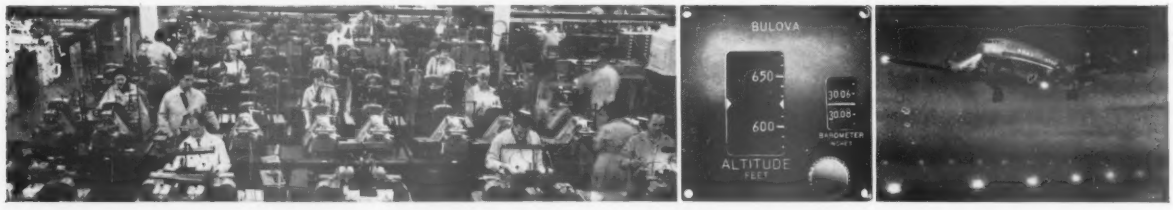

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THE AIR LINE PILOT

JUNE, 1959
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In This Issue . . .

- **Atmospheric Turbulence And Air Traffic Control** ..... **Page 4**
  (A Discussion Of Problems Related To Turbulence And Vertical Separation)
- **It's What's Up Front That Counts** ..... **Page 6**
  (Jet Operations And Safety Based On Air Force Experience)
- **The State Of The Association** ..... **Page 10**
  (Second In A Series Reporting In Detail On ALPA And It's Activities)
- **As Wives See It** ..... **Page 18**
  (How The Aviation Alphabet Looks To Her As Opposed To Him)
- **Mutual Aid Pact: Did CAB Protect Public Interest** ..... **Page 19**
  (Dissenting Opinion Of CAB Member In Board Ruling)
- **Along The Line** ..... **Page 24**
  (Features On Interesting Air Line Pilots)
- **Human Factors In Air Safety** ..... **Page 25**
  (Some Tips On Physical And Mental Fitness For Pilots)
- **Collective Bargaining For Air Line Pilots** ..... **Page 29**
  (Second Of A Series On An ALPA Activity Of Intimate Importance)
- **The Briefing** ..... **Page 32**
  (A Digest Of News And Views In Aviation)
- **As Others See It** ..... **Page 33**
  (Air Line Pilots And Their Profession In The Public Eye)

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On The Cover

The first of Continental's new Boeing 707's went into service early this month between Chicago and Los Angeles. The Golden Jets will supplement Continental's jet-prop Viscounts. The 707 is already in use on Pan American, American and TWA.

Continental purchased four of the 707's at a cost of $23,500,000 including spare parts, training and other pre-operating expenses.

The Golden Jets are powered by four Pratt and Whitney "JT-3" gas turbine engines providing normal air speeds of 550-600 mph at cruising altitudes of 30,000 to 40,000 feet.

Capacity is almost double that of present piston-engine aircraft used in commercial service. The aircraft is 144 feet 6 inches long with a cabin interior of more than 100 feet and contains 98 windows. Wing span is 130 feet 10 inches.

As in the introduction of all new airliners, ALPA participated in the evaluation of the 707. The objective of ALPA participation was to explore the "make-up" and flying characteristics of the plane from the line pilots point of view, bearing in mind a pilot's requirements for doing his job efficiently and consistently with safety.

Members of the committee are Roy Holm (PAA), chairman; C. H. Daudt (AAL), W. H. Records (AAL), C. L. Kraemer (AAL), L. Homer Mouden (BNF), August G. Place (BNF), R. A. Stone (UAL), W. W. Betts (BNF), A. P. Shelly (CAL), T. C. Patecell (PAA), Stewart Terrell (PAA), R. F. Adickes (TWA), and H. H. Thurston (TWA).

During the evaluation, the committee inspected the plane from the pilot's viewpoint, flight evaluated the plane for performance and flight characteristics and will service evaluate the 707 to determine its levels of safety in line use.

To date ALPA evaluations have been made on these new jets: the Boeing 707, Fairchild F-27 and Lockheed Electra. Evaluations are well underway on the Douglas DC-8 and Convair 880 jets.

The Problems Of Turbulence And Vertical Separation

ATMOSPHERIC TURBULENCE AND AIR TRAFFIC CONTROL

By Robert F. Gates
FAA

DURING a recent IFR flight, in VFR weather conditions along a VOR Civil Airway, I was piloting a CAA DC-3 when a large civil transport passed approximately 1,000 feet directly above, going in the opposite direction. This is not unusual in today's operations since navigational facilities are very accurate, aircraft are being flown along identical courses, and traffic densities are high and every increasing. Nevertheless, when I observe passage of another aircraft approximately 1,000 feet above or below, many incidents are recalled when an assigned altitude could not be flown due to heavy turbulence. This has caused me to wonder if our airway system is being developed with a capability to handle flights properly when atmospheric turbulence exists along the airways.

I was drafting this en route to San Francisco on an air line flight when the captain, who is an old friend of mine, came through the aircraft and stopped to talk. When he heard that I was preparing a paper on the subject of Turbulence and Vertical Separation, he related a flight experience between Chicago and New York which is typical of the problem. Cleared to maintain 18,000 feet, turbulence was encountered and ascent to 21,000 feet could not be avoided. He managed to descend to 18,000 feet when he was forced again to 21,000 feet. This process occurred once more when he decided that he should, if possible, stay at 20,000 feet. An Air Traffic Control clearance was requested and, after some delay, word came back that the request could not be approved because a DC-6 was at that altitude. He chose to pull off of airways and fly at 20,000 feet rather than to continue the battle with the elements.

What pilot cannot relate experiences such as this one? I was forced 8,000 feet from an assigned altitude in one instance; and although such extreme displacements do not occur frequently to any one pilot, considering the overall problem, it is certainly significant and cannot be ignored.

Let us review what is done today in the traffic control system when thunderstorms are encountered.

Generally speaking, flight crews initiate practically all action for deviating from a route or altitude in order to circumnavigate thunderstorms. These pilot requests immediately become a complex problem to Air Traffic Control. The affected area must be studied and an attempt made to ac-

commodate the aircraft for the proposed route of flight. Revision to estimates must be made and traffic on adjacent and converging airways or areas must be considered. In order to consider a request, ATC must be furnished with such details as where will the detour commence, what route and altitude does the pilot prefer, where will the original route be rejoined, and will he be IFR or VFR?

In case the storm is so severe that immediate deviation from a clearance is required, or, in event ATC cannot approve a deviation, then a pilot's emergency authority is exercised and ATC is to be advised as soon as possible of the action taken. What usually results is illustrated by my friend's experience between 18,000 and 21,000 feet. He was so busy that the first message ATC received was that he was at 20,000 feet and wanted to stay there. Remember that he had visited 21,000 feet three times before he decided to ask ATC for 20,000 feet and that ATC assumed he was at 18,000 feet during this time.

How does airborne radar fit into the picture? In my opinion, it provides for greater safety in the sense that severe turbulence can usually be avoided which might damage the aircraft and usually permits the crew to secure passengers prior to encountering areas of roughness; but it results in increased deviations from ATC clearances in order to avoid areas of turbulence. The problem would not be so critical if a pilot could just pull off of an airway and advise ATC that he was out of control area. This may be possible in the Western part of the U. S., but where in the East can a pilot find uncontrolled airspace? We can assume that to depart from an airway without an Air Traffic clearance is not the answer to the problem since more and more of our airspace is being absorbed into the control system or is used for other aviation purposes.

It would be convenient at this point to state that we should make increased use of horizontal separation so that the vertical separation problem would be minimized; but, traffic densities are increasing at a rate which will require maximum utilization of all airspace.

When a highway breaks up, traffic is detoured around the damaged portion. When an air route becomes rough, aircraft should be detoured also.

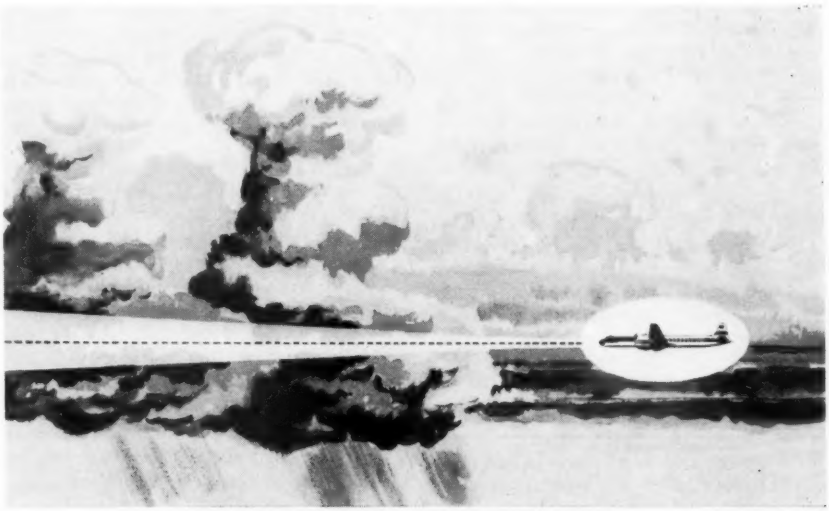
One obvious answer to detouring of aircraft around thunderstorms is in the use of some means such as ground or airborne radar to provide continuous and complete synoptic coverage over the airway system. It would be desirable not to abandon a route due to thunderstorm activity but to continue to clear aircraft at altitudes relatively free from gusts and drafts.

Insofar as FAA AFSR-1 equipment is concerned, the circular polarization feature serves to reduce the ability of the controller to determine heavy precipitation areas, and this will reduce the value of the equipment in flight advisory service. Another factor to be considered is that the controller does not have the extra time available to afford the luxury of extensive flight advisory and vectoring service. To charge the center controller with the initiation of detour action in today's operation leaves much to be desired. Aside from the lack of time for such action, large variations in the degree of turbulence exist; and there would be frequent differences of opinion between pilot and controller, especially regarding routes involving additional mileage to be flown. The only apparent solution to the problem seems to be that the United States Weather Bureau should be provided with the means to accurately forecast storm activities. The ability of the U. S. Weather Bureau to accomplish this service today seems limited primarily because of the lack of ground radar equipment.

We much acknowledge the requirement for better methods of predicting turbulent weather in order to permit aircraft to avoid known hazardous areas. Accurate weather forecasts, coupled with sound flight planning, would enable the controller to route traffic around turbulent areas. Control centers would have a maximum amount of notice of non-preferred routes, and the adverse effects upon traffic flow would be reduced with result that greater traffic volumes and higher speeds could be handled.

If a system could be developed and implemented which would keep aircraft free from moderate to severe turbulence, it may develop that airborne weather radar sets, which pilots today believe is an invention second only to the discovery of the wheel, could be removed. This should make both air line management and pilots happy for quite obvious reasons. An effective system of thunderstorm avoidance should also cause more people to travel by air. Aviation safety would be increased since major problems such as mid-air collisions, aircraft structural damage, and passenger injuries would be considerably reduced.

My discussion of the problem has been primarily concerned with thunderstorm avoidance, but other types of turbulence associated with clear air and standing waves over mountains need to be investigated to determine if an effective system of avoidance can be developed. We should not await the solution to these other phenomena, however, before proceeding with a solution to the major problem of thunderstorm avoidance.



Airborne Radar Might Be Removed In Future

It's What's Up Front That Counts

By

Major General Joseph D. Caldara

Director of Flight Safety Research
Office of the Inspector General

General Caldara

"It's what's up front that counts!" Some people will call that a "cigarette commercial." It's also a fact of life for pilots and passengers. No matter what airplane you fly or fly in—"It's what's up front that counts!"

What's up front that counts—to a pilot? From the moment he walks out to the flight line, climbs in his bird, checks his instruments, lines up on the runway, takes off, watches the weather and *other aircraft,* locates a landing strip, sets her on the ground—(and maybe rolls through a runway barrier) —the situation *in front of him always* is the most important consideration of the moment.

Someone asked me to discuss some of the problems facing civil air lines. I am going to talk about jet operations, *based on Air Force experience.* According to the capacity loads of passengers that the jet transports have been carrying in this country, it seems to me that most of the public interest, and therefore yours too, apparently lies in the experience going into jets.

The Air Force has been flying jets since 1947. My first jet flight was in 1949. And right here at the outset, let me state that jet flying not only can be the fastest and most comfortable form of aerial transportation currently available to man—it can also be the safest.

Air Force Accidents

Last year, the Air Force had 894 major accidents—that's all kinds of aircraft—jets, non-jets, and helicopters. Of this total, 698 or 78 per cent were jet powered. Only 22 per cent were non-jet or reciprocating engine aircraft.

These figures might have been justifiable except for the fact that of the Air Force's total flying time, jets accounted for 46 per cent or less than half of the total. Now then, what causes this big gap between accident types? In all fairness to the Air Force and in respect to jets in general, the rest of our accident story must also be summarized before touching on specifics.

A majority of the American people don't realize it, but at any given moment of the day, the Air Force has approximately 1,000 aircraft airborne somewhere in the world. In the last 60 seconds, these same airplanes have flown some 4,800 miles. This is equivalent to back and forth across the United States every minute, from the earth to the moon in one hour, or from the earth to the sun in two weeks. An operation of this size exposes a lot of men and machines to accidents.

Accident Records

At Norton AFB in California, the Directorate of Flight Safety Research maintains 52 years of accident and personal flying time records date back to Orville Wright's first military crash in 1908. For all practical purposes, however, most of our records date back to 1921 when the old Army Signal Corps had an all-time high rate of 506 major aircraft accidents for each 100,000 hours of flying time. Since then, we have used the 100,000 hour flying increment to compute all of our rates.

The major accident rate has generally followed a downward trend except for specific reverses due to unusual circumstances.

Despite the introduction of jet aircraft into Air Force inventory in 1947, the rate has continued downward. In 1947 the rate was 44—in 1954 it was 20. In 1955, it was 17, and in 1958 we were able to reach an all-time record low of 10.4, a figure of which we're proud but one with which we aren't at all satisfied or complacent. **The only irreducible rate for accidents and fatalities is zero.**

Since 1947 the Air Force has gone all jet in its tactical aircraft and supersonic in all its fighters. Yet the accidents have been reduced each year.

From 1922 to 1950, flying hours increased from 198 to 2,741 per major accident. But, from 1950 through 1958, flying hours per major accident increased from 2,741 to 9,448. In no other nine-year period has the safety factor increased so dramatically.

In 1950, we were flying 16,152 hours per pilot fatality; today we are flying some 28,000 hours per pilot fatality.

Grim Paradox

There's a grim paradox to this story, however. While the accident rate has been lowered from 44 when we first got jets in 1947 to 10.4 last year, the chance that an aircraft involved in an accident would be totally destroyed has risen from less than one-third in 1947 to almost 59 per cent today.

By the same token, the trend of pilot fatalities to major accidents has increased. Back in the 30's, 8 per cent or about one in every 13 major acci-

dents resulted in a fatality. In 1947, 17 per cent or one in 6 of the majors resulted in a pilot death. Last year, 34 per cent or one in 3 of the major accidents resulted in a pilot's loss of life.

The accident rates of Century Series fighters have been no worse than lower performance fighters. In fact, the accident rate of these Century Series aircraft during the period of initial use has been lower than the rate of most previous models, including non-jets, when they first became operational in the Air Force.

We have different models of jet aircraft in the Air Force inventory today but, of course, they can't all be compared to the Boeing 707, Douglas DC-8 or Convair 880. Nevertheless, there are certain characteristics and problems applicable to all jets—military and civil.

Causes of Jet Accidents

What are the primary causes for jet aircraft accidents based on the Air Force record in 1958? You will remember that I said 78 per cent of all of our major accidents last year involved jet aircraft.

The largest accident cause factor is the pilot himself—39 per cent!

Our greatest concern today, next to the pilot, is material. While accidents involving pilots as a cause-factor have decreased over the last five years, accidents from materiel causes have increased each year.

This brings to us the inescapable conclusion that the same degree of quality control exercised in the production and maintenance of reciprocating engine aircraft is not good enough for jets and prop-jets. Increased performance in today's jets requires increased standards of quality control and reliability—all across the board—from the design engineer to the wing commander to the mechanic on the flight line.

We must concentrate more on dependability. The costs of KC-135's, B-52's, 707's, and DC-8's, like our Air Force jets are too high for use to afford the luxury of a major accident to discover the deficiencies.

There's some evidence of progress being made through the years. In 1924 the water distribution off a Liberty engine was involved in a crackup down in Panama. The contaminants that caused the accident in this system were a porkchop bone, two pieces of walnut shell, and an unidentifiable rubber object. Around the impeller of the pump was an old rag, wrapped up tightly. Now I'm happy to report to you that in the 4½ years that I've been director of flight safety research, we have not found a single case of a porkchop bone as a contaminant in any of our fluid distribution systems. However, the rags, the rubber hoses, and the unidentified articles are still being found in all of our systems, hydraulic, fuel and oil.

Likely problem areas by phase of flight for civil flight, as based on Air Force experience during 1958, can be presented.

Danger Area

This brings me to the jingle again—"It's what's up front that counts." Accident inducing factors are more critical in jet aircraft as pilots enter this area of flight. In the Air Force, the first 200 hours of jet time comprise the most dangerous area for transitioning pilots. Our records show that 60 per cent of our jet bomber accidents involve pilots with less than 200 hours of jet experience. One notable conclusion from studies on the subject is that thousands of hours of conventional flying time do not necessarily enhance the qualifications of a pilot assigned to fly a jet.

Pre-flight planning or briefing is a big item in jet operations. In addition to the old-fashioned items, some additional weather phenomena are covered. These include height of the tropopause, temperature departure from standard, high altitude turbulence and jet streams. Surface weather conditions —ceiling, visibility, temperature, pressure and winds—are most thoroughly covered. There is not time to waste at the end of the ride—because there is no fuel.

Takeoff

As it has always been in the past, the takeoff represents a very critical portion of the flight. The use of acceleration checkpoints during takeoff roll, maximum refusal speeds and distance as well as unstick or lift off speed is of extreme importance. Billboard type markers at 1,000 foot intervals along the runway are absolutely inadequate, although they are the only means to assist the pilot at this time. Some sort of takeoff monitor is a must if we wish to avoid a catastrophic abort. The best proof of this is the fact that B-47 aborted takeoff accidents are consistently 100 per cent fatal.

One serious problem in the phase is anticipating when traffic clearance will be received in sufficient time to start engines and takeoff. Engine ground operating time at idle RPM costs a KC-135 approximately 18 gallons of fuel per minute. For your information, a KC-135 grossing 260,000 pounds at takeoff requires about 2,000 pounds of fuel to complete takeoff roll and accelerate to climb speed.

It's what's up front that counts as the commercial jet pilots also discovered when they looked at the size of some of this country's domestic airports prior to takeoff. During World War II, the standard Air Force runway length was 5,000 feet. Since then, practically every major runway in the Air Force has been completely rebuilt and extended to lengths of 9,000 to 12,000 feet and some even to 14,000 feet.

Accurate Performance Planning

Variables in temperature, terrain, and pressure altitude, plus certain inherent characteristics of the jet engine, are of vital importance to accurate performance planning for jet transports. Engine operating conditions which before could be generalized, now must be specific.

Consider the flight of a jet aircraft making a run from San Francisco to Denver. The pilot leaves San Francisco with his normal load, 150,000 pounds. The temperature is 65 degrees F. He has an 8,900 foot runway with an elevation at approximately sea level. His takeoff roll is 5,600 feet.

But assuming he lands at Denver and takes off again, see what he faces now. His elevation is over 5,000 feet in the mile-high city. The temperature is up to 100 degrees F. The same airplane with the same normal load of 150,000 pounds maximum, gross weight, now requires a **12,400 foot takeoff roll.** At Denver he has only a 10,000 foot runway, however. He can't make it. To get airborne in that 10,000 feet, he must **reduce his gross weight to 138,000 pounds.** And if for some reason he fails to properly calculate these variable factors, we have a new set of figures to add to our takeoff accident statistics.

Headline Makers

The biggest headline makers in aviation today are mid-air collisions. Although flying is safer than ever today and we can prove it whether we measure our safety in air line miles or in hundreds of thousands of hour successfully flown, public opinion is formed by every accident we have—particularly dramatic ones like mid-

air collisions. I want to say right now, that intelligent reporting of some of our most disastrous accidents in recent years by the aviation writing fraternity has gone a long way toward developing public acceptance of jet passenger operations. I hope that this enlightened relationship between the aviation industry—meaning military and civil—and the journalism fraternity, will continue to reflect in an even more enlightened public.

Mid-air collisions represent only 3½ per cent of all major accidents in the Air Force. I don't mean for one second to minimize the importance of mid-air collisions. I want only to impress upon you the disproportionate effect this type of accident sometimes has on the public mind in terms of the overall safety picture.

"See and Be Seen" Flying

The reason most mid-air collisions ever occur is because the days of "see and be seen" flying are gone, and I'm glad to say, we in the Directorate of Flight Safety Research recognized this problem long before the famous Grand Canyon and Pacoima School disasters. In face, we first expressed the need for an anti-collision device in aircraft cockpits over five years ago, and both of these accidents could have been prevented had such a device been in existence.

Aside from traffic control, there are two factors at work to make a collision possible, and these are two factors which every jet pilot—military and commercial alike—must know and respect. First, the almost fantastic rate of head-on closing speed in high performance aircraft and, second, the built-in limitations of man whose reactions are appallingly slow when pitted against the rapidity of events that can occur during high speed flight.

If two 600-mile-an-hour aircraft such as the 707 and DC-8 should ever get on a collision course 1½ miles apart, a collision is inevitable. Let me tell you why.

One and one-third miles is the maximum distance at high altitudes that the human eye can perceive another object the size of an aircraft. Caused by the fact that the eye has nothing other than infinity on which to focus and due to the fact air is less dense, this condition is called high altitude myopia. At jet aircraft closing speeds this amounts to four seconds of time. It takes .1 second for the eye to perceive that an object is in front of it and another .5 second to recognize what it is. It then takes a full second for the brain to react with a decision. Considering the amount of time spent on less important decisions, a one-second delay is not unreasonable. It then takes .4 second for the human body to react or take emergency action. Once the controls are activated, it takes two more seconds for the aircraft to deviate from its flight path.

A good example of this situation occurred in March of this year near Twin Falls, Idaho, when two Air Force B-47 jet bombers clipped each other in flight, but fortunately without disastrous results. They were cruising along on a collision course at 30,000 feet, each flying about 600 miles per hour which is a closing rate nearly twice the speed of sound. The pilots were looking through the windscreen, and only one saw the other B-47 heading right at him. He threw his yoke over and ducked under the second B-47, ripping a gash in its right wing and tearing off part of his own vertical stabilizer. After flying around awhile to burn off fuel, both landed. Our investigation showed the pilot of the second jet never did see the first one and didn't know what had hit his plane.

Collision Avoidance System

In the spring of 1958 as a result of an Air Force contract, the Bendix Corporation reported that a collision avoidance system was possible. This feasibility study showed that an anti-collision device must:

- Indicate the threat
- Provide a bearing to the threat (so the pilot can tell whether to go left, right, up or down to avoid it).
- Provide the rate of closure of the threat, and
- Provide at least 20 seconds warning.

Since the organization of FAA another contract has been negotiated between that agency and Bendix to develop a bread board model.

Although this program shows great promise, another interim device was developed by Motorola Radio at the request of the Edwards Air Force Flight Test Center. Rather than radar, this utilizes a radio transponder. It is limited in distance but will provide adequate time for the pilot to take the necessary avoidance action. It's also a cooperative device—it must be installed in all aircraft, and most important of all, it is estimated that it will be of reasonably low cost.

While this is not the ultimate solution and might not be applicable to Mach 2 or 3 transports, it can assist pilots in avoiding collisions in calendar year 1959. Without some kind of assistance, a mid-air collision at high altitude is only a matter of time. It may be today, tomorrow or next month, but if we continue to operate under the "See and Be Seen" principle, mid-air collisions are inevitable.

In terms of civil operations as well as military, I personally believe anti-collision devices will eventually be required on all aircraft, both large and small.

Altimeter Error

In addition to circumstances such as weather, which can force a pilot to deviate from an assigned altitude, the altimeter can also be in error or possibly be read incorrectly. Because present standard dial-type altimeters can be off as much as 1,000 feet at high altitudes, this means that two

Take Off — Still a Critical Part of a Flight

aircraft supposedly operating at 36,000 and 38,000 feet could actually be on a collision course at 37,000 feet.

There are new altimeters currently being tested by the Air Force. Bulova has developed a linear moving tape altimeter incorporating a servo-driven mechanism which, to a great extent, eliminates the lag in altitude presentation due to high speed descent. I have used it and it looks very favorable. An engineer expressed some concern on the fail safe aspects but I'd rather have that altimeter than one which I can misread by one—or even 10,000 feet!

You can see that our title, "It's what's up front that counts," is still appropriate.

One of the most important decisions the jet pilots make is when to let down. Fuel consumption by a jet engine increases astronomically as altitude decreases. Premature descents to low altitude or holding at low altitude imposes a severe penalty. After a long over-water or trancontinental flight, jet aircraft cannot descend to make a couple of passes at a field and then climb back to altitude and proceed to an alternate. The pilot must have timely and accurate present and forecast terminal weather conditions prior to his arrival at his destination, early enough so that he can safely continue or divert as the case may be.

Success or Failure

The success or failure of many jet flights will depend solely on this judgment exercised in planning descent from cruising altitude. The pilot who lands his jet—and then has to be towed off the runway due to fuel starvation isn't smart—he is lucky and so are his passengers.

The problem of overshoots and undershoots is definitely a case of "It's what's up front that counts!" And you interpret this three ways—it can be the pilot, what's in front of him, or both.

A recent study showed the Air Force experienced 235 major undershoot accidents which were not preceded by any emergency. Of this nature, 195 involved jets. All except four of the 235 undershoots occurred under contact conditions, and all except 15 occurred with visibility greater than three miles. Half involved undershooting by less than 200 feet and the other half over 200 feet.

The primary reason for a short landing is poor airspeed control on final approach, excessive rate of descent or late flareout for landing. The real trick here being the difference between jet thrust and propeller horsepower. Part of the problem here is the time it takes to accelerate a jet engine from idle to high RPM and the fact that most of your thrust increase takes place in the last few per cent of RPM. One modern engine gets a 40 per cent increase in thrust in the last 7 per cent of engine RPM increase.

Landing roll is a bigger problem in jets due to high approach speeds and lack of drag.

Stopping the Bird

Although thrust reversers are available on commercial jet transports, the stopping capabilities inherent in reversing props cannot be attained in the jet transport. As in everything else in flying jets, stopping the bird is different. This brings up the need for runway barriers, because if anything up front ever counted, this is it.

I am firmly convinced that in the next few years every airport utilized by jet aircraft will be equipped with arresting gear. Present Air Force policy requires landing hooks on jet aircraft to be developed and test work is being conducted to determine if this program can be made to retrofit existing equipment. This is for not only fighters, but bombers and any jet transports in the inventory.

Inadequacies of the existing Air Force gear have long been recognized and there have been some remarkable developments recently. One of the most promising is a barrier with an energy absorbing device which can be used to arrest the landing roll of a lightweight fighter at 80 knots or a B-52 at 400,000 pounds at 150 knots. This type energy absorbing unit appears to hold maximum promise for an arresting gear system. Over a period of three years the Air Force could have prevented 82 major accidents, saved the lives of 15 pilots and saved over $33 million had an effective arresting barrier been when it was needed.

These are some of the problems that are up front of the pilot. I am not ignoring the passengers by any manner of means. After all, the passengers are the people who buy the tickets. These problems as they affect the pilot affect the safety of the passengers. A compromise in any of the problem areas up front of the pilot can be the end of the road for the passenger. It's what's up front that counts and as far as the passenger is concerned it's the pilot who is up front and only as the pilot is able to recognize, understand and solve the problems in front of him is the passenger assured of a safe flight.

None of these problems are insurmountable, but the 100 per cent perfect piece of equipment available in 1963 won't prevent aircraft accidents in 1959.

It is my firm belief that equipment now under test can contribute materially to the safety of military and civilian jet operations. I strongly urge that we avoid a continuation of paralysis through analysis. Get this new equipment and in so doing guarantee to every passenger on civil air lines that the best and only the best is what's up front!!!

About the Author And Article

At the recent convention of the Aviation Writers Association, Maj. Gen. Joseph D. Caldara was presented the Monsanto Aviation Safety Award for 1958's "most significant and lasting contribution to aircraft operating safety." The foregoing are his remarks made at the presentation.

Gen. Caldara received the award for having achieved a record 20.7 per cent reduction in major Air Force flying accidents last year. An all-time low of 10.4 accidents per 100,000 hour flow was established.

Caldara, director of flight safety research for the Air Force, was cited for "dynamic leadership" in accident prevention and for sponsoring Air Force-Aircraft Industry conferences on the subject.

Caldara has been flying since 1931. During World War II he was Chief of Air Operations in the South Pacific Theatre. Among other positions, he has been Commander in Puerto Rico, Kansas, Japan and Guam for the Strategic Air Command.

State Of The Association

Part 2

(EDITORS NOTE: *This is the second installment of the State of The Association Report submitted by President Sayen at the 15th Convention. Because of the many requests this report is being made available to all ALPA members. Where necessary, editor's notes have been inserted to show the current status due to developments since the Convention held last November. This installment covers the Legal and Conciliation, Engineering and Air Safety, Publicity and Public Relations and Statistical and Research Departments.)*

Legal And Conciliation

The functions of the Legal and Conciliation Department of the Association may be generally catalogued as follows:

▶ To provide legal counselling to the Association's officers and personnel, departments, pilot committees.

▶ Representing the Association in legal action brought by it or against it in the jurisdiction where the general offices of the Association are located—Chicago, Illinois.

▶ Providing legal counselling and assistance to individual pilot members in all matters arising out of or in the course of their employment.

▶ Providing legal representation and assistance to individual pilot members in grievances, particularly before the System Boards of Adjustment, and in instances where the pilot is charged with violation of the civil air regulations.

▶ Representing the Association in association with local attorneys in jurisdiction other than Illinois where legal actions are brought by or against the Association in these jurisdictions; monitoring the litigation and advising with the local counsel in all aspects of the suit.

Grievances

The Legal Department of the Association is often called upon to aid in resolving problems, possible grievances and other difficulties. In each such instance an "incident file" is opened in the department and correspondence upon the problem is continued until the incident is disposed or grows into a grievance.

When an incident becomes a grievance, the Legal Department, if requested:

▶ Advises with the grieving pilot upon the merits of his grievance, prepares the formal grievance and sometimes files it for him.

▶ Opens a grievance file in the Department, keeps track of the grievance as it finds its way through the grievance machinery of the Pilots' Employment Agreement, and reminds the grieving pilot of the necessity of meeting the procedural deadline dates.

▶ Prepares and files the Letter of Submission to the System Board in all grievances which reach the System Board level.

▶ Arranges semi-annual and special meetings of the System Boards, attends and represents the grieving pilot in the preparation and presentation of his grievance case to the Board.

▶ If grievances are deadlocked by the Board, arranges the appointment of the Neutral, the future meeting of the Board with the Neutral in attendance, and represents the grieving pilot in the further presentation of his case to the Board as thus composed.

CAA Violation Cases

In seeking redress against a pilot for violation of the Civil Air Regulations, the Civil Aeronautical Administrator may ask one of two remedies:

(1) He may seek to fasten a monetary penalty upon the pilot, or,

(2) He may ask for temporary or permanent suspension of the pilot's license. (EDITOR'S NOTE: *Or his Airline Transport Pilot Rating (ATR).)* When the Administrator seeks a monetary penalty, he files suit in the Federal District Court in the District in which the pilot resides. If suspension or revocation of a pilot's license is sought, the Administrator files a petition with the Civil Aeronautics Board asking such sanction. (EDITOR'S NOTE: *Now instead of filing a petition asking such sanctions, the Administrator merely issues an order to that effect; it is then incumbent upon the pilot to appeal such order to the CAB if he desires a hearing upon the matter.)* In all cases where the pilot member is charged with violation of the Civil Air Regulation, if requested, the Legal Department consults and advises with the member charged. In the event he decides against disposing of the case by compromise, his defense is undertaken at Association expense. The Legal Department handles all cases begun by the Administrator before the Civil Aeronautics Board seeking the suspension or revocation of the pilot's license.

In those suits which are begun by the Administrator in the Federal District Courts around the country which seek monetary penalty, as indicated above, it is necessary for the Legal Department to arrange for local counsel to handle the matter since staff attorneys are not licensed or permitted to practice law in those jurisdictions. The Legal Department does keep in close

contact with these local attorneys, advise with them upon the proper course to pursue in preliminary motions, pleadings, etc. When, and if the suit comes to trial, a staff attorney is provided to assist in the presentation of the pilot's case.

Suits Against the Association

Prior to the last Convention several suits had been brought against the Association, both in Illinois and elsewhere. These suits have been successfully defended by the Legal Department in the Illinois courts, or by the Legal Department working with local attorneys when the suits were brought outside Illinois. Additionally, during the period since the last Convention several additional suits have been filed. Following is a resume' of the above suits and their disposition:

Suit Pending by Last Convention

Klein vs. ALPA—Suit for $10,000 for public relations services authorized by the Association. The Master-in-Chancery, to whom the matter was referred for trial, issued his report recommending dismissal of the suit. On exceptions to the Master's report the Court reversed the Master and entered judgment against the Association in the sum of $3,000. The judgment was paid and the litigation thus ended.

Suits Begun Since Last Convention

Paul S. Woolley vs. ALPA, et al—The discharge of Woolley was confirmed by the four-man Eastern Pilots' System Board of Adjustment. Woolley filed suit to upset the System Board Award and joined ALPA and the two ALPA System Board Members as defendants. The suit was dismissed in the United States District Court and Woolley appealed the same to the Circuit Court of Appeals; this last Court affirmed the dismissal. Woolley then sought certiorari in the Supreme Court of the United States which was denied and the litigation ended.

Arnold, et al vs. United Air Lines, Inc.—Arnold and others were at one time on the United Pilot System Seniority List; thereafter for several years they worked for United as flight engineers. Subsequently they were reemployed by United as newly hired pilots since their furlough period had expired. This suit was filed by these pilots seeking enhancement of their pilot seniority to the date when they were first employed as pilots prior to their interim employment as flight engineers. The suit is still pending.

*(*EDITOR'S NOTE*: Since the 1958 Convention, ALPA has been involved in several additional law suits, some have already been disposed, others are still pending:*

- *Trans World Airlines vs. ALPA—When ALPA refused to fly TWA jets until a jet contract was signed, and the TWA pilots voted to withdraw from the services of the company, TWA filed a suit for injunction claiming that pilots were under contract to "fly company aircraft" whether jet or otherwise and therefore could not refuse to fly jets or strike the air line to induce a jet contract.*

  The case was tried and the court held that flying jet aircraft was a change in working conditions which the company could not unilaterally inaugurate without an agreement. The injunction was therefore quashed.

- *FEIA vs. Eastern and ALPA—During the negotiations between ALPA and Eastern in the matter of the "crew complement", the FEIA filed a suit against ALPA and Eastern asking a declaratory judgment that only the FEIA had the right to negotiate "job qualifications" of the Eastern flight engineer and for an injunction prohibiting ALPA and Eastern from negotiating upon the subject.*

  Without going into details, the result of this suit was an injunction against FEIA from "insisting, or attempting to require Eastern to bargain upon requirements for training or qualifications of flight engineers on jet aircraft.")

CAB Cases

The Legal Department screens all new cases filed in the Civil Aeronautics Board. In all such cases, in which the interests of the pilot employees of the company involved may be in any way affected, Legal Department files Petitions to Intervene and represents the Association in the case when circumstance demands it. Such cases include interchange of equipment; personnel or both; certificate renewals; mergers; sales of routes, etc. Following are examples of a few such cases handled since the last Convention:

Docket 8712—In matter of Unrealistic Schedules-American, National, Eastern and TWA.

Docket 5713—Piedmont Local Service Area Investigation-Suspension of authority to certain cities.

Docket 7628—In matter of Braniff—Suspension of authority to certain cities.

Docket 8412—In matter of PAA-Flying Tiger Line — For approval of agreement re-charters.

Docket 9069—In matter of PAA—For acquisition of Stock Interest in Philippine Airlines.

Related Duties

In addition to the above functions, the Legal Department performs numerous other duties, some of which are:

- Keeps a current roster of the System Board membership on each air line and informs the President of the Association of the necessity for substitution or annual replacements to these Boards.
- Keeps a current roster of 25 First Pilots and 25 Copilots from among whom selections may be made to an Arbitration Board to settle seniority disputes, within the Association, in merger cases.
- After a merger is approved by the Civil Aeronautics Board, the Legal Department confers with the Seniority Representatives respecting Association procedure for merging the seniority lists, prepares a schedule of procedural steps and monitors the integration to see that the time limitations of each "step" in the process is maintained.
- To a limited degree, the Legal Department performs the same services to affiliate organizations as it renders to the Association. There are five such affiliates: ALSSA, ACCOA, ALAA, ACPA and ACMA and the combined membership number 9,300.

Accomplishments

Following is a computation of the number of incidents, grievances, Civil Air Regulation violation cases, Civil Aeronautics Board Dockets, and law suits handled by the Legal Department from October 1, 1956, to the date of this report. The grievance cases are broken down into those which reach the System Board level and those processed through the Neutral Arbitrator, which is the last step in the grievance procedure. These figures do not include any matters handled for ALPA affiliates.

Incidents and Grievances

Incident files:		
Pending and opened		260
Closed	158	
Still pending	102	
Grievance files:		
Pending and opened		906
Closed	592	
Still pending	314	
Discipline and discharge only		108
Discharge only		57
Grievances—disposition:		
Reaching 4-man Systm Board (139)		
Reaching 5-man System Board (67)	206	
Disposed in preliminary steps	386	592

Actual Monetary Recovery for Pilot Membership

Without taking into consideration the tremendous monetary value which accrues to an employee over the years, following his reinstatement after discharge, the Legal Department is responsible for the recovery by the

ALPA's Legal And Conciliation Department.

membership of $145,750.85 during the period covered by this report. This figure does not include recoveries made for the affiliate membership.

Civil Air Regulation Violation Cases

Violation Case files:		
Pending and opened		56
Closed	34	
Still pending	22	

Disposition of Violation Cases

Violation cases:		
Disposed in preliminary steps	23	
Compromised	6	
Processed to trial	5	34

CAB Cases

CAB cases pending and opened	39	

Summary

The problems which have confronted the Legal Department pertain to the handling of the volume of business referred to it. The work load has increased with the growth of ALPA and its affiliates, and the stresses and strains of the growth of the air line business in general.

One of the major problems has been the myriad of grievances flowing from individual pilots throughout the industry without coordination and without a method of screening out the unmeritorious cases. This problem has been somewhat alleviated through the formation of Local Grievance Chairman operating through a Master Executive Council Grievance Chairman on some of the air lines. These Grievance Chairmen build up experience in the field of grievances and are able to coordinate with the Legal Department in an attempt to have grievance matters cleared before a grievance is formally made. It is to be recommended that every air line establish the Grievance Chairman procedure.

The heavy increase in the general work load has been somewhat alleviated by additions to the staff. The Legal Department has expanded to include five full time attorneys supplemented by outside legal assistance on special projects in special geographical areas when necessitated. Better utilization of the time of each Department member has been accomplished by strict adherence to the assignment of each attorney to specific air lines. The definite assignments have promulgated the ability of each attorney to plan his scheduling so as to fully utilize his availability to the field. The results of the definite assignment program indicate that each attorney is enabled to become closer acquainted with the specific problems which evolve in each air line. The ability to better allocate his time has been conducive to the calling of special System Board Hearings so that cases do not incur an appreciable time lag between hearings, or pile up so as to overburden the regular biannual System Board Sessions. Each attorney is now enabled whenever possible to attend Master Executive Committee Meetings, at which time he is often able to give legal opinions on which the Council can derive decisions as to whether certain grievances should be filed. It is observed that at Master Executive Council Meetings the attorney and the Grievance Chairman are called upon to report on System Board Hearings as well as to express views on the merits of proposed grievances.

It is observed that the definite assignment program has had a further beneficial result in a closer liaison between the Legal Department and the Negotiating Department. It has developed a freer flow of communication back and forth between the specifically assigned negotiator and attorney.

The joint efforts of ALPA with others have developed a "new look" in CAB Accident Investigation Hearings, whereby for the first time, ALPA legal counsel is permitted to examine witnesses. It is felt this is a great stride forward in matters such as these.

(EDITOR'S NOTE: *Since the 1958 Convention, the business of the Legal Department has kept pace with the preceding two years. Following is a compilation of files opened and closed during the intervening period:*

Incident files opened		*77*
Incident files closed		*11*
Grievance files opened		*277*
Grievance files closed		*60*
Violation case files opened		*11*
Violation case files closed		*8*
Disposed in preliminary steps	*2*	
Compromised	*2*	
Processed through trial	*4)*	

To keep pace with the growth of ALPA and its affiliates, the Legal Department has been expanded to include five full-time attorneys, supplemented by outside legal assistance on special projects.

Staff

The staff of this department consists of: F. Harold Bennett, Department Head, Maurice H. Schy, John P. O'Brien, Maurice B. Wigderson, Allen E. Gramza, and secretarial personnel: Hazel Beckman, Dolores McBride, Patricia Manypenny, Elva Mohney, Helen Chipain.

Engineering And Air Safety

The high degree of professional standing achieved by the Air Line Pilots Association in its continuous efforts to improve safety was stated by a neutral in a recent case as follows:

"To a degree unique in American history, the pilot and his organization have participated in planning and in making important decisions in the air line industry along with the managements of the air lines. They have been consulted on new equipment and its functioning, on airport facilities, fire control, safety, engineering and many other matters, which elsewhere would be considered to be primarily within the province of management.

"This consultation has by no means been perfunctory. Plans and programs, which would involve changes in basic working conditions have been held up until approved by the pilot group."

Activities

The work of the Association in the field of air safety has become too broad to completely catalog. It may be generally stated as:

▶ Coordination of pilot representation in each council, air line and region for the effective analysis and reporting of safety problems. Over 160 pilots are involved continuously in this work.

▶ Implementation of the policies of the Association in the field of air safety. ALPA policy contains 102 Air Safety

Directives. Numerous additional ALPA positions were determined and utilized.

▶ Participation in industry projects and conferences which seek solution to problems important to the air transportation industry and the air line piloting profession. Over 30 of this type meeting were attended in the last two years.

▶ Participation in new plane development and evaluation as an integral part of the air transport industry. Five new aircraft were evaluated with numerous visits made to each manufacturer in the last two years.

▶ Participation in the planning and development of new airports, including standards for runway approach aids. Among the major airports on which ALPA was consulted were O'Hare, Louisville, Chantilly, St. Louis and Rochester, Minn.

▶ Representation of the pilot viewpoint in the formulation, drafting, or revision of Civil Air Regulations or any other action of municipal, state, federal or international authority to regulate air commerce. There were 58 CAB Draft Releases in the last two years. Numerous other governmental proposals were evaluated.

▶ Participation in the safety projects of the International Federation of Air Line Pilots Associations and participation in and monitoring of the actions of the International Civil Aviation Organization.

Organization

● *Council Air Safety Committees* handle problems which concern only the local council and disseminate information to the councils in coordination with the Council Chairman.

● *Central Airline Safety Committees,* composed of a representative from each Council Air Safety Committee, handle problems common to more than one council or the entire air line, working in coordination with the Master Executive Council Chairman.

● *Regional Air Safety Committees,* composed of representatives from each air line at a particular domicile, handle local problems requiring the coordination of the ALPA councils at the domicile, i.e., noise problem in the New York area.

● *Accident Investigation.* All airline safety committees recognize accident investigation as one of their prime duties. Special accident investigation committees have been established on several major airlines, as recommended in discussion on this subject during the 1958 Air Safety Forum. Also, the Regional and the Area Safety Chairmen, as well as the Home Office staff are available to supply assistance when needed.

(EDITOR'S NOTE: *Since the Convention an ALPA Regional Accident Investigating Committee has been established consisting of two accident representatives in each ALPA region and two alternates. The committee members are responsible to the Association's officers and the Home Office. Their activities are coordinated with their Regional Vice-Presidents.)*

● *Air Safety Forum,* held annually, was approved in 1952 by the Twelfth Convention as a medium for the exchange of views among pilot and industry representatives on mutual air safety problems. ALPA delegates to the Air Safety Forum are Central Airline Safety Chairmen and Special ALPA Safety Representatives. All who have participated in the six Forums to date have expressed great satisfaction with this medium for exchanging views and drawing attention to air safety problems. It has also proved to be an excellent public relations tool. Closed sessions have provided pilots a welcome opportunity to discuss internal Association problems.

Technical Talk for Pilots

Believing that an exchange of experience is valuable, the Association publishes a monthly bulletin entitled, "Technical Talk for Pilots," for all ALPA members and other aviation interests. This bulletin was first published in 1953. It offers for study condensed items of interest purely in the technical and safety field of aviation. Many of these articles are contributed by air line pilots and the Association's Staff. Whenever specific information from other aviation sources is considered appropriate, it is also used in this bulletin.

Special Committees and Meetings

● *Airworthiness Advisory Committee,* composed of Chicago-based pilots who advise on the handling of air safety problems such as CAB draft releases, etc.

● *Airspace Subcommittees* are set up at each CAA regional headquarters. These committees, composed of industry and government agency representatives, consider air space and navigational problems in their area; such as location or alternation of navigational facilities; approval or disapproval of radio tower location and construction; establishment of danger or restricted areas. ALPA is represented by the Regional Air Safety Chairman, or other Association Area Representative.

● *National Air Transport Coordinating Committee* is an industry organization which arose out of the noise problem in the New York area and the series of accidents at Newark for the purpose of coordinating efforts to cope with problems arising from public indignation over aircraft noise and accidents. President Sayen was elected to the three-man Executive Committee which directs the activities of NATCC.

● *National Advisory Committee for Aeronautics*—Committee on Operational Problems. The NACA is the basic aeronautical research agency of the U. S. Government. Research projects are determined by appointees to the various committees. President Sayen is now serving his fifth term as a member of

ALPA's Engineering And Air Safety Department.

the committee on Operating Problems.

● *Civil Aviation Air Defense Advisory Panel* includes ALPA. The committee advises the joint CAA-USAF Air Defense Planning Board. The group issued the SCAT plan for the air defense of the United States which has been released to all ALPA councils.

● *ALPA-CAA Working Committee on Operational Problems.* This is a group of ALPA representatives made up of Regional Air Safety Chairmen. These representatives meet with top CAA representatives on operational problems in Washington, D. C., periodically. Such subjects as sliding scale, air space and ATC matters are discussed.

(EDITOR'S NOTE: *Regional Vice-Presidents as well as Regional Air Safety Chairmen now make up the ALPA group which meets with the new FAA to discuss operational problems. At its most recent meeting on May 26, the group took up current enforcement procedures of the FAA, crew training and qualifications, physical standards, air traffic control, safety problems associated with turbine-powered aircraft performance requirements, daily mechanical irregularity reporting procedures, anti-collision lighting developments, and airborne radar among other problems.)*

● *ALPA is represented on a number of Air Coordinating Committee Subcommittees as follows:* (a) Air Traffic Control and Navigational Panel—J. D. Smith, CAP; (b) Air Space Rules and Rules of the Air—L. Abel, CAP, H. Kelly, PAI; (c) Aerodrome Air Routes and Ground Aids—R. Stone, UAL; (d) Search and Rescue—J. Burn, PAA; (e) Airworthiness—L. H. Mouden, BNF.

● *National Aviation Noise Reduction Committee* is a group of government and industry aviation organizations which deal with all aspects of the noise problem.

Miscellaneous Industry Activities having ALPA participation: CAB Annual Airworthiness Review—An annual meeting to discuss proposed airworthiness regulations; UAL Annual Flight Safety Seminar—Air Line Safety problems discussed; Annual ATA Chief Pilots' Meeting—Industry operations safety problems discussed; Annual Flight Safety Foundation Flight Safety Seminar—Industry problems discussed; IFALPA Air Safety Conferences—on current subjects; National Business Aircraft Association—meetings on current industry problems; SAE (S-7) Committee—meetings to standardize flight deck instrumentation; SAE (S-9) Committee—meetings to standardize cabin safety provisions; Meetings with City and State Officials on Airport Safety; Meetings with Military Aviation groups.

Current Projects and Project Chairmen

● Airworthiness and Performance Committee—L. H. Mouden (BNF), Chairman; M. B. Cahill (NWA), and J. W. Meek (DAL), Members.

● Air Traffic Control—Pilots' viewpoint is formulated for improvement of air traffic control in accordance with ALPA policy. The Committee's activities in implementing the ALPA proposed "Golden Triangle" procedures is an example of the far reaching effect of ALPA's program. Continued ALPA effort on improving air traffic control is resulting in increased industry recognition of ALPA's efforts. J. D. Smith (CAP), Chairman; R. L. Tuxbury (UAL), J. Elrod (LCA), H. Miller (AAL), E. J. Bechtold (EAL), Members; T. A. Basnight, ALPA Staff Coordinator.

● Radio Technical Commission for Aeronautics. Long range planning and development work in equipment aspects of air traffic control. Implementation of "common system" has ALPA representation in many phases of its work as follows:

(a) Executive Committee — C. N. Sayen; Alternate Clark Luther; (b) SC-63 Helicopter Air Navigation Communications and Traffic Control Study —Howard Higgins (NYA) and H. C. Catey (CHA); (c) SC-70 Altimetry—D. Phillips (TWA); (d) SC-74 Airborne Proximity Indication for Collision Warning Study—R. Stone (UAL) and H. Walls (AAL); (e) SC-76 Jet Aircraft Operating Procedures—J. D. Smith (CAP); (f) SC-79 Autopilots and Autopilot Couplers—D. M. Nichols (UAL); and (g) SC-87 Radar Altimeters—R. L. Heuer (AAL).

● Approach and Airport Lighting. R. A. Stone (UAL) has taken over this work from E. A. Cutrell (AAL) who now is with the Airways Modernization Board working on this subject. Single row, centerline approach light system has been adopted by ALPA, IFALPA, IATA and the CAA and has been adopted by ICAO as the International standard. A revised flush threshold light evaluation has been approved to meet military requirements for overrun and undershoot. A satisfactory civil-military standard has been realized. Latest development — narrow gauge flush runway lights, centerline runway lights and runway flood-lighting is being evaluated to solve the "dark hole" touchdown problem.

● Aircraft Exterior Lighting, R. A. Stone (UAL). Regulations have been adopted calling for increasing the flashing rate of navigation lights. Federal regulations have been adopted for anti-collision lights on all civil aircraft over 12,500 pounds. Work is progressing to improve present standards; several new types are being tested—daylight conspicuity need emphasized.

● Cockpit Standardization. W. Hitt (BNF). J. J. Kelly (EAL), ALPA representative on SAE Cockpit Standardization Committee. Recommended standards are being reviewed on instrument grouping and control movement. An ALPA proposed instrument grouping standard has been adopted by the industry, known as the Basic "T."

● Emergency Evacuation. J. C. Burn (PAA). The CAB has revised ditching procedures at sea as a result of ALPA efforts. Research studies continue to further implement ALPA recommendations.

● Cargo Study Committee. E. Tappe (CAP). Studying hazardous cargo handling and operating procedures.

● Airport Fire Control. V. Hewes (DAL) and W. Collier (PAA) have surveyed international air line airports' fire control facilities and worked with ICAO and other organizations to achieve an international standard. They have contacted airport managers who need to improve their airport fire fighting equipment and procedures. Work is continuing on international and domestic airports. A proposed Technical Standard Order for airport fire and rescue equipment has been forwarded to the CAA and is receiving industry attention.

● European-Mediterranean Navigational Facilities and Traffic Problems. W. M. Masland (PAA), ALPA and IFALPA representative to ICAO and EUMED problems.

● Cockpit Ventilation and Pressurization. V. A. Peterson (EAL) and George C. Cooke (EAL). Research toward establishment of standards for ventilation in pressurized aircraft. ALPA recommendations are being incorporated into the new jet aircraft. This subject is receiving increased attention by the industry.

● Joint Civil-Military Use Program. Regional Safety Chairmen and ALPA Engineering and Air Safety Department are following this problem closely at existing and proposed joint-use airports.

● Pilot Training Plans Committee. E. R. Watson (EAL), Chairman; D. L. Leonard (NWA) and S. Gondek (MOH), Members. A great deal of

study and effort has been completed including a comprehensive report to the Board of Directors. The Committee stands ready to consult with individual air line pilot groups who need assistance on their air line's program.

● ALPA Helicopter Study Committee. H. Catey (CHA). A number of industry meetings on helicopter regulatory matters have been attended. Detailed regulation for transport helicopter aircraft have been adopted. Proposed regulations are presently being reviewed.

● Air Traffic Control Study Committee. J. D. Smith (CAP), Chairman. ALPA is working on all phases of this important industry subject. ALPA recommendations for improvement of Air Traffic Control have been formulated by the Committee and approved through the Board of Directors. Appearances before Congressional Committees, CAB, General Curtis' White House Group and others have been made implementing ALPA's projects in this field. Continued work on implementation of ALPA's program is being conducted by the Committee.

The preceding is not intended to be a complete listing of current engineering and air safety projects, but rather to outline the general activities of the Association. The emphasis in such projects is being placed upon the utilization of pilot specialists as official ALPA spokesmen. The work of the Committee is monitored and coordinated by staff members, with the committees and staff members responsible for keeping the membership informed, through Association channels.

To insure pilot participation in arriving at sound recommendations and positions on engineering and air safety matters, the Association has amplified the use of its draft release method and procedure, involving contact with each Local Council through the respective Local Council Officers and Air Safety Chairmen.

Accomplishments

Some representative accomplishments of ALPA in the field of safety since the last Convention are:

▶ The Golden Triangle for positive separation was adopted for the New York-Chicago-Washington, D. C. airways and later these procedures were expanded to the Chicago-Miami-Boston airways and to the Western Defense area. ALPA's lead in this problem provided guidance for other groups and agencies, demonstrated the capacity of the airways system in the highest density traffic areas in the world and stimulated work in the Traffic Control Field.

▶ An ALPA flight panel instrumentation arrangement has been developed and adopted as a national standard. Civil Air Regulations have been amended to certificate aircraft incorporating the ALPA standard. IFALPA has adopted the ALPA standard and is working toward an ICAO standard.

▶ The design and operating recommendations compiled by the ALPA New Airplane Evaluation Committees total approximately 60 for each new airplane. The airplane manufacturers and the carriers have adopted these recommendations as follows: 86 per cent for the Fairchild F-27; 57 per cent for the Boeing 707; 54 per cent for the Lockheed Electra. The balance of the recommendations made by ALPA fall essentially in the categories of "research," "active" and "unaccomplished." Indications are that additional recommendations will be adopted. Douglas DC-8 and Convair 880 recommendations are still in work.

▶ The Centerline System of approach lighting has now been adopted by IFALPA, IATA, ICAO and the Military. Important work is in progress in improved runway lighting.

▶ The CAB has revised Civil Air Regulations to incorporate ALPA proposed requirements for emergency evacuation and procedures.

▶ Other major items and projects well under way involve a Technical Standard Order for airport fire fighting equipment, a take-off safety check, airport safety requirements, pilot training programs, landing weather measurement, altimetry and anti-collision lighting.

Trends

▶ Recent evaluation and flight demonstration programs have been completed on the F-27, Lockheed Electra and the Boeing 707. ALPA flight evaluation reports on these aircraft should be available shortly. Future evaluation programs are contemplated on all new air line aircraft.

(EDITOR'S NOTE: *Evaluation reports have been completed and distributed to pilots and industry representatives.)*

▶ Increased ALPA helicopter activities are expected. The Civil Air Regulations for helicopter operation are still being fully developed, and much work remains to be done in the establishment of national standards.

▶ ALPA jet operation and evaluation committees are well along on studying all newly developed air line jet aircraft. ALPA committees have visited the factories and discussed design and operating problems on the following new aircraft: Boeing 707 and 720, Douglas DC-8, Lockheed Electra, Sikorsky S-58, Convair 880 and 600, Fokker F-27.

▶ Pilot representatives of each of the air lines of the original group purchasing the new aircraft are on the ALPA committees. Factory visits to study mock-ups and meet with aircraft engineers have taken place for evaluation of all models of the new turbine airplanes. The ALPA Boeing 707, Lockheed Electra and Fokker F-27 Evaluation Committees have had an opportunity to flight test the aircraft. As other new aircraft development projects reach the flying stage, it is anticipated that the ALPA committees will have an opportunity to take part in flight demonstrations. F-27, Electra and Boeing 707 evaluation activities are scheduled to be completed before January 1, 1959.

(EDITOR'S NOTE: *These are complete, and Phase I activities on the DC-8 and CV-880 are nearing completion.)*

▶ During the last two years ALPA's stature and activity in industry work with new aircraft has increased many times and this work must continue.

▶ More and more pilot accident investigation specialists are being recognized as experienced ALPA accident investigators. On this phase of Association activity, President Sayen has asked that pilot committees filing accident investigation reports with the Association fix "the probable cause" of the accident. Such reports are made to the President and are not released for distribution without his approval. Accident investigation committees on several air lines have been formed. Members serve a three-year rotational term.

▶ *Technical Talk for Pilots* has continued to be a worthwhile medium by which the members can contribute their experience and incidents for the benefit of all ALPA members and industry. It is sent to about 100 industry organizations interested in air safety. The Association welcomes contributions for publication from all industry sources and we have found *Technical Talk for Pilots* articles are being quoted more and more by other industry and military publications.

(EDITOR'S NOTE: *Recently the publication was renamed "Tech Talk" and the format changed to a four page printed paper. The format change makes the paper more readable and provides more room for readers' contributions and illustrations.)*

▶ Pilot representation in ICAO through IFALPA is being strengthened and efforts are being continued with ICAO through IFALPA to secure au-

thorization for pilot representatives to participate in accident investigations in foreign countries.

The staff of this department consists of: T. G. Linnert, Department Head; C. F. Eck, T. A. Basnight (Washington Office), O. W. Hanks; secretarial personnel, Cecelia Martensen, Donna Lee Krusz and Barbara Kalal.

Publicity And Public Relations

Much of the strength of an association lies in its ability to keep the membership accurately and currently informed. One of the assets of a profession is the favorable light in which it is held by the public and public agencies. ALPA's public relations program and Public Relations Department is designed with these two important objectives in mind. It is based on a two-phase concept of membership information and public education using well-accepted and successful public relations techniques and utilizing all media.

The Association's Publicity and Public Relations are under the direction of Department Head E. C. Modes, who works in cooperation with the officers of the Association to implement the ALPA policies and programs in this field. Mr. Modes is assisted by a staff of three, one professional public relations assistant and two secretarial employees. Other public relations assignments are carried out by various staff members including the Washington Office and selected pilot representatives.

The total ALPA Public Relations program consists of many different services and activities. Some of these are:

ALPA Publications

Information to the membership is distributed through the *News Bulletin, The Air Line Pilot, Technical Talk for Pilots,* and special bulletins and booklets such as *The ALPA Story, Why You Should Belong to ALPA,* and *ALPA's Organization for Safety,* as well as special reports when necessary.

The ALPA News Bureau

Public information is distributed through News Releases, *The Air Line Pilot,* radio and television programs, special magazine articles and personal press contacts.

The ALPA Public Service Bureau

This is a service maintained by the Public Relations Department to answer specific requests for information and research data and material for use of students, writers, speakers, and others desiring information on ALPA.

The ALPA Membership Information Service

This is a personalized information service for all members maintained by the Public Relations Department to supplement and extend communication channels such as the *News Bulletin.*

Public Relations Advisory Service

Publicity and Public Relations are a function of all ALPA staff members. A specialist advises each department in an effort to make all Association publications more interesting and readable. In addition, the Public Relations Department also advises, assists, and works in conjunction with local pilot public relations appointees.

Cooperation with various committees and study groups is a part of the Public Relations Department's activities carried out to determine how they can fit into ALPA's public relations program, and, conversely, how ALPA's public relations program can aid them.

Accomplishments

The Association has developed and carries on a continuous long-range good will program, the basic foundation for a public relations program. This is supplemented when the need is indicated by projects aimed at more immediate objectives such as securing passage of a vital piece of legislation, obtaining air safety improvements, or creating a more favorable climate for negotiating procedures, for example.

To accomplish this, the Association has continued to concentrate on expanding contacts which are essential to this type of activity. At the same time, an increasing amount of material has been made available for public consumption. As they can be worked into ALPA's program, more public relations techniques and media are being utilized to broaden the basic program.

Some examples: The Association now maintains basic contacts with all the wire services, all major daily papers, and many weekly papers, aviation editors and writers, national magazines, columnists and radio and TV stations. The Public Relations Department services about 1,000 publications, news services and writers regularly. In an average week it produces and distributes three general news releases on a mass basis in addition to at least one specially-prepared article for a specific media. Since the last Convention, a total of 9,465 stories concerning the Association (as determined by the clippings provided by Burrelle's Press Clipping Service) have appeared in the nation's press as features, editorials, or news stories. Seventeen Association-written articles have been prepared and have appeared in large circulation magazines. During the past year, a documentary sound film, *The Air Line Pilot,* has been completed and is available for use by schools, civic organizations, fraternal groups and other organizations.

▸ **News Letter Program:** The News Letter program has become almost universally accepted and its value well established as a method of improving communications at the local level and in areas of information which the Home Office facilities could not, in themselves, provide. Most MEC's publish *MEC News Letters,* while practically all of the larger councils, as well as many smaller councils, are keeping their members informed via the *Council News Notes.*

▸ **News Bulletin:** The *News Bulletin,* published every two weeks on an iron-clad deadline which has never been missed, is utilized to report all major activities of the Association at the national level and considered of interest and importance to the membership at

ALPA's Publicity And Public Relations Department.

large. It endeavors to provide a running and integrated picture of the Association as a whole, interpret the meaning of activities where necessary, clarify Association policy and programs, and generally provide an outline of long-range plans where necessary. Because of this scope, it is necessarily brief, written in a newsletter style and concentrates on items of the greatest importance and currency. In February of this year, after considerable study, it was changed from a mimeographed to a printed format resulting in what is felt to be a more readable, convenient publication while at the same time effecting a worthwhile production economy.

▸ **The Air Line Pilot:** *The Air Line Pilot* is published monthly and has become a respected magazine in the industry. Both circulation and average size has increased, editorial content has been strengthened, and a more eye-catching typographical format adopted. Normal basic size is now 24 pages, compared to the former sixteen. Many issues run 28 and 32 pages; some special issues 36. Current press run is almost 19,000, about 5,000 of this distributed outside the Association.

Advertising revenues have shown a steady increase and it is hoped that ultimately the publication may become self-supporting. *The Air Line Pilot* is a professional journal designed to provide information on the pilot's job and profession, his problems and their possible solutions, and background on overall ALPA policies and programs. This is accomplished by an editorial formula stressing technical, general interest and "think" articles.

Analysis, Outlook and Plans

A review of ALPA's program since the last Convention shows that there has been improvement of noticeable proportions in those areas where results are measurable statistically by means of such things as published articles and newspaper lineage. This is due to several factors, among them: administrative improvements for handling routine matters which has permitted more time for creative and productive public relations activity; strengthening of the departmental staff; additional funds being devoted to public relations; and improved facilities for carrying out an efficient program.

Also contributing greatly to strengthening the Association's public relations has been an encouraging trend of awareness that public relations is not exclusively a function of the Home Office Public Relations Department, but is a function of everyone engaged in Association business—officers, committee members, air safety representatives, and members of the ALPA staff. This area provides the greatest avenue for genuine improvement by full utilization of the well-defined Association public relations services at the disposal of these people.

ALPA's Statistical And Research Department.

We hope to continue improvements in this program by: (1) continuing to maintain an expanding and consistent long-range program to increase the personal and group prestige of the air line pilots as "professional men"; (2) by a study and exploration of methods of overcoming communication problems in a public relations program of national and international scope; (3) by continuing to expand our utilization of public relations talent available in the membership ranks and of ways and means to stimulate more satisfactory public relations and news dissemination at the local level; (4) by expansion of a program to promote the interest of the mass media and national magazines in constructive air line pilot articles; (5) by continued broad news release coverage on virtually all aspects of ALPA activities with the stress on air safety.

The Association public relations department is organized to expand normally in response to need, attempting, as part of its function, to maintain a sensitivity in this respect, and is so integrated in the Association's structure that this has and will continue to occur from time to time almost automatically in relation to demands made upon it.

Staff

The staff of this department consists of: Ed Modes, Department Head; Tom Burns, Editorial Assistant; secretarial personnel, Dorothy Gramm and Elaine Walsh.

Statistical And Research

The Research Department performs the following functions for the Association:

▸ Evaluates and presents information of a statistical and economic nature to assist the officers, staff and pilots of the Association in the accomplishment of their duties and responsibilities.

▸ Keeps available for staff and pilot use economic and statistical information necessary for collective bargaining, arbitration, legal proceedings, and so forth.

▸ Participates actively in collective bargaining.

▸ Prepares evidence and exhibits and appears as witnesses in Association proceedings as necessary.

▸ Maintains historical records.

Research Facilities

The Association maintains a Research Department with two professional people and such other assistance as is necessary. In addition, various other departments of the organization are assigned to research duties as necessary, and the Association is fortunate in having on its staff individuals who are trained and experienced in this field. In addition, utilization is made of independent research organizations as necessary in connection with specific projects. It is imperative to the functioning of the Association in our modern complex society that adequate, accurate research be constantly conducted to handle current problems and anticipate the future problems.

Current Programs

All personnel of the Research Department are assigned to collective bargaining activities under the theory that facing actual collective bargaining problems will increase the effectiveness of the Department.

At the close of each calendar year, a complete statistical analysis is made of pilot earnings for the year. As a result, the Association now has wage

statistics dating from 1952 which present average pilot wages, quartiles and deciles of pilot wages by air line, by pilot status, and by air line classification. This essential information was not available prior to 1952 and such studies must be continued to provide accurate statistical information for many purposes.

Career potential studies are made constantly in order to analyze in detail the trends in negotiations and the net result in terms of the career professional pilot. Such studies are necessary to determine problem areas for further negotiation.

The Association is now in the process of completing a study of the relative position of air line pilots of all the Member Associations of the International Federation of Air Line Pilots Associations. This information is important to the work of IFALPA as well as ALPA. The International Federation is bringing its work on a similar study up to date.

Publications

▸ **Negotiators Handbook** — Is an analysis and compilation of all pilot agreements on a comparative basis. This handbook enables staff negotiators and pilot representatives to have a ready reference to all current agreements. It also facilitates the comparison of various sections of agreements.

▸ **Rates of Compensation Handbook** —Is a study dealing solely with monthly wages by type of equipment for varying hours flown paid by each air line to pilots and copilots.

▸ **Pension Handbook** — Sets forth simplified methods of computation of costs and benefits in the negotiation of retirement programs. This publication is made available to staff members and negotiating committees in order that a common system for the calculation of costs and benefits may be utilized.

Library and Files

A library is being developed by the Association to make available to staff and pilot representatives information relating to labor-management relations, economic developments, and so forth. It is composed of professional journals, periodicals, government publications, of which the following are examples:

Monthly Labor Review; Survey of Current Business; Harvard Business Review; Journal of Air Law & Commerce; Industrial & Labor Relations Review; American Economic Review; Journal of Aviation Medicine; Fortune; Dept. of Commerce Releases; Dept. of Labor Releases; C.A.B. Releases; C.A.B. Dockets; Records of Arbitration; International Labor Review; Records of Mergers; Air Line Financial Information; misc. bulletins and reports.

Research

The Research Department provides essential objective information for the use of Standing Committees of the Board of Directors or other groups as needed. In addition, the Department was most active in the preparation and presentation of exhibits and corollary data for:

▸ The PAA Fact Finding Hearings during the Spring of 1957. These hearings consumed several months of preparation and presentation. The presentation of the pilots' problems stressed among other things, working conditions, scheduling, rates of compensation, simulator and other training, listed accommodations, physical examination, copilot ATR's, Furloughs and Filling of Vacancies. All in all, over 150 exhibits were prepared and discussed—

▸ The EAL Presidential Emergency Board during the Spring and Summer of 1958. These proceedings stressed rules, wages, pensions, working conditions and crew complement for turboprop and turbo-jet aircraft with a resulting recommendation by the Board for the peaceful solution to the crew complement problems and approximately a 15% increase in rates of compensation, pension costs and working conditions. Nearly 350 exhibits were presented to the Board and discussed by approximately eighteen witnesses—

▸ The AAL Presidential Emergency Board during the Summer of 1958. The presentation stressed rates of compensation, working conditions and rules for piston powered aircraft. The hearings were not completed because of procedural disputes and the Board recommended further negotiations by the parties—

▸ The WAL Arbitration during the Summer and Fall of 1958. These hearings resulting from a withdrawal from service by the pilots, followed lengthy negotiations and mediation conferences. The presentations involved rates of compensation, rules, working conditions, international operations and pensions. Approximately 360 exhibits were prepared and presented. Nearly a dozen witnesses testified—

▸ The WCA Fact Finding Hearings will be heard following this convention and will be presented to include rates of compensation for DC-3 aircraft, the establishment of an improved F-27 rate of compensation, working conditions, pension, and rules—

▸ The CBA Arbitration will be heard before January 1, 1959 and will be devoted to rates of compensation, duration and retroactivity.

(EDITOR'S NOTE: *CBA top rate for first pilot was set at $1,258.94 on DC-3 effective 3/1/59 and $1,280.18 effective 3/1/60. Top rate for copilot was set at $776 effective 3/1/59 and $781 effective 3/1/60. The contract is effective until 9/30/60.)*

Staff

The staff of this department consists of William J. MacWilliams, Jr., Director; James R. Murphy, Administrative Assistant; and secretarial: Dolores Rzepka and Marge Schmidt.

As Wives See It:

The Aviation Alphabet

By W. R. Broocke

Council 73

The problem confronting most married people, according to the marriage counselors, is the lack of communication between the parties. This does not mean that there is not an exchange of words. There is an abundance of that. But in the case of pilots, the terms used by them all too often lack a definition that is understood by both them and their wives.

These are the wives definitions:

Trip: A strategic maneuver contrived with the connivance of management to get a man out of moving, painting, or attending a concert.

ATC: A code word, probably meaning a saloon, used as a so-called explanation for not arriving in time for dinner.

South: A vague geographical area where raven-haired, sloe-eyed, soft speaking, beautiful girls look with great favor on the same qualities in a man that make him a miserable libidinous slob at home.

North: A vague geographical area where flint eyed, brittle, immaculately tailored, beautiful girls look etc., etc.

West: A vague geographical area where wide-eyed, blonde haired, large bosomed beautiful girls look etc., etc.

East: There is no such place.

Isobar: A cold saloon.

Millibar: A saloon presided over by a girl named Millie.

DC-7: An electrically operated airplane with seven motors.

Cb's & PRT's: Words used to describe a nervous disorder. When used together the disorder is of a magnitude similar to DT's.

Air Lines' Mutual Aid Pact:

Did CAB Protect Public Interest

CAB Member Minetti In Dissenting Opinion Says Board Approval Of Air Line "Strike Benefit" Plan Is Adverse To The Public Interest And In Violation Of The Federal Aviation Act Of 1958.

On May 20, 1959, the Civil Aeronautics Board approved the six-air line Mutual Aid Pact under which American, Capital, Eastern, Pan American, Trans World, and United Air Lines will, in effect, pay each other strike benefits. The agreement, effective October 20, 1958, and extending for a period of one year, provides for mutual assistance in the event any party's flight operations are shut down by reason of: (1) a strike called to enforce union demands in excess of or opposed to the recommendations of a Presidential Emergency Board appointed under Section 10 of the Railway Labor Act; (2) a strike called before exhaustion of the pre-strike procedures of that Act, or (3) a strike which is otherwise unlawful. The bases of benefits due to the struck air line are the increased revenues of the other signatories attributable to the strike, less applicable direct added expense. Considerable questions of public interest and the legality of such a pact were involved in the hearings leading up to the decision. The Board's approval was a split decision. Chairman Durfee, Vice Chairman Gurney, and members Denny and Hector approved. Member Minetti dissented and filed a minority opinion providing an excellent analysis of the nature and effect of the Board's action, which he contended was not in the public interest and questioned whether it was within the board's power. Because of the importance of the subject and the fact it was given little publicity elsewhere, Mr. Minetti's opinion is being reprinted verbatim by The Air Line Pilot.

I cannot agree with the majority that this mutual aid agreement is neither adverse to the public interest nor in violation of the Federal Aviation Act of 1958.

Under the Federal Aviation Act of 1958 (the Act), this Board cannot approve any agreement between carriers which offends the Railway Labor Act or the public interest on which it is based, since air carrier certificates, under the Act, are conditioned on continued compliance with the Railway Labor Act. Since this agreement tends to make the collective bargaining process of the Railway Labor Act impotent, the agreement cannot be approved by this Board.

The Railway Labor Act envisages the mandatory practice and procedure of collective bargaining as the only feasible method of preventing work stoppages in essential transportation. In sharp contrast, because of the coercion it imposes on labor during and subsequent to the statutory negotiating periods, **this agreement will destroy the practice while retaining the procedure of collective bargaining.** From the unfortunate opening declaration of hostilities,[1] through the provisions for enforcing Presidential Emergency Board recommendations, the agreement it premised on a proposition repugnant to the Railway Labor Act, namely, that labor-management disputes can only be resolved through the use of concerted economic force.

The damage which this agreement does to the statutory processes of the Railway Labor Act is clear from the agreement itself and from the limited factual information available to us. Even if we assume that our current information does not unequivocally establish the illegality of the agreement, an assumption which I cannot make, the majority's failure to require an evidentiary hearing in order to explore the critical issues raised by this agreement is totally inconsistent with the Board's statutory obligations and is equivalent to an abuse of regulatory discretion.

The Railway Labor Act,[2] like related statutes which form the basis for our national labor policy,[3] is predicated on the faith which Congress has placed in the ability of labor and management to resolve their disputes through sincere efforts to reach an agreement. It seeks to protect the public interest inherent in uninterrupted common carrier service by promoting a peaceful, friendly approach to labor-management disputes.

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1. "WHEREAS, the parties and other airlines **are facing or faced with the threat of extreme and unreasonable demands** made by representatives of certain of the classes and crafts of their employees, as exemplified by the current dispute between certain of the parties and their maintenance and related employees, represented for the purpose of collective bargaining by the International Association of Machinists, AFL-CIO (hereinafter called IAM), a controversy in which IAM has rejected and shown an utter disregard for the recommendations of the Emergency Board 122 appointed by the President of the United States to investigate said dispute and has struck Capital Airlines and threatened to strike other carriers for their **insistence upon substantial compliance with the terms of said recommendations,** which action of the IAM tends to undermine the influence, position and integrity of such Board and is destructive of the collective bargaining process; . . ." (Emphasis added.)

2. "The purposes of the Act are: (1) To avoid any interruption to commerce or to the operation of any carrier engaged therein; (2) to forbid any limitation upon freedom of association among employees or any denial, as a condition of employment or otherwise, of the right of employees to join a labor organization; (3) to provide for the complete independence of carriers and of employees in the matter of self-organization to carry out the purposes of this Act; (4) to provide for the prompt and orderly settlement of all disputes concerning rates of pay, rules, or working conditions; (5) to provide for the prompt and orderly settlement of all disputes growing out of grievances or out of the interpretations or application of agreements covering rates of pay, rules, or working conditions."

3. **National Labor Relations Act, 29 U.S.C.A. S 151:**
"Experience has proved that protection by law of the right of employees to organize and bargain collectively safeguards commerce from injury, impairment or interruption, and promotes the flow of commerce by removing certain recognized sources of industrial strife and unrest, by encouraging practices fundamental to the friendly adjustment of industrial disputes arising out of differences as to wages, hours, or other working conditions, and by restoring equality of bargaining power between employers and employees.

* * *

"It is declared to be the policy of the United States to eliminate the causes of certain substantial obstructions to the free flow of commerce and to mitigate and eliminate these obstructions when they have occurred by encouraging the practice and procedure of collective bargaining and by protecting the exercise by workers of full freedom of association, self-organization, and designation of representatives of their own choosing, for the purpose of negotiating the terms and conditions of their employment or other mutual aid or protection."

Every feature of the Railway Labor Act is aimed either at creating favorable conditions for the conduct of collective bargaining or at prohibiting obstacles to its successful accomplishment. Thus, the Railway Labor Act guarantees to employees the right to organize and bargain collectively through representatives of their own choosing, and provides, in the essential 1934 amendments,[4] the means for compliance with its provision.

Stated in another way, the Railway Labor Act promotes genuine collective bargaining and, consequently, labor peace, by nullifying the imbalance in bargaining power, between employer and employee, which economic concentration had produced. Not only does the statute protect the employee's right to organize for bargaining purposes but, in addition, it **requires** management to confer in good faith with employee elected representatives, a compulsion without which the right to organize and bargain would be an empty one.

The necessity for this compulsion is clear. As the National Mediation Board has stated, "there can be no effective right to organize if it is to be enforced only with economic power."[5] For these and other reasons," then, the Railway Labor Act is an employee-protection statute as well as an overall plan for labor peace. Since both objectives are designed to be realized through genuine, good-faith collective bargaining, the emasculation of the bargaining process inherent in this agreement is adverse to the objectives of the Railway Labor Act.

To ensure the attainment of its objectives, the Railway Labor Act commands the parties to major disputes to take the following preliminary steps, without which no agreement could be reached, and freezes the use of economic weapons during the steps.[7] First, the Railway Labor Act requires direct bargaining between the parties in a good-faith effort to adjust their differences. Second, when bilateral efforts to reach agreement have failed, on request of either party or on proffer of services by the National Mediation Board, the National Mediation Board will act as mediator, or counsellor, to both parties to the dispute. Third, in the event of continued failure by the parties to reach agreement after mediation, the National Mediation Board must make every effort to induce the parties to submit their controversies to final and binding arbitration. Finally, where either of the parties declines to arbitrate and the National Mediation Board is of the judgment that an unadjusted dispute threatens "substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service,"[8] the National Mediation Board must notify the President, who in his discretion may create an Emergency Board to investigate and report on the facts of the dispute.

Examination of this agreement reveals it to be contrary to the collective bargaining objectives of the Railway Labor Act in two fundamental respects. One, it imposes compulsory multi-employer bargaining without employee consent. Two, it substitutes reliance on economic force for the good-faith bargaining required by the Railway Labor Act.

Multi-Employer Bargaining

Whether the majority considers multi-employer bargaining desirable or undesirable, its review of this agreement is circumscribed by the prohibition of the Railway Labor Act against the imposition of multi-employer bargaining on unwilling employees. This the National Mediation Board has found.[9] Moreover, the language of the statute permits no other reasonable construction and the statutory prohibition has been recognized by airline spokesmen.[10]

The wisdom of this prohibition is apparent. Any tendency to hinge the entire operation of the nation's airlines on the success of a single negotiation increases the danger of a nationwide transportation paralysis, particularly where the expanded scope of negotiation is involuntary. Certainly, where multi-employer negotiations are compulsory, the change in relative economic bargaining strength, as well as the hardened attitudes which compulsion produces, can entirely frustrate not only the machinery but the very purposes of the Railway Labor Act. Ironically, I might add, where one carrier negotiates for the industry, an industry-wide work stoppage might well occur, even though a threatened work stoppage on the routes of that carrier alone would not justify the creation of an Emergency Board.[11]

Past experience with the Airlines' Negotiating Committee, a bargaining agency for the industry established in 1945, illustrates the dangers of compulsory multi-employer bargaining. That committee unquestionably prevented an early settlement of a wage dispute between the Air Line Pilots Association on the one hand and American and TWA on the other. Although the Air Line Pilots Association had accepted a National Mediation Board proffer of arbitration, both carriers declined, demanding that negotiations be conducted on an industry-wide basis through the Airlines' Negotiating Committee. The result was both unfortunate and unnecessary. As an Emergency Board noted.[12]

> ". . . the mediation and arbitration policies of the **Railway Labor Act did not have a fair chance to work out their peaceful and amicable results because of the controversy over industry-wide bargaining.** Had this dispute been handled promptly when it arose in the summer of 1945, it might well have been settled before the question of joint bargaining became acute . . ."

The Airlines' Negotiating Committee agreement was approved by the Civil Aeronautics Board under section 412 without an evidentiary hearing. Such a hearing would have revealed that prior to Board approval, the Committee attempted to force industry-wide bargaining on the pilots.

In spite of this earlier experience, and in the face of the available facts which point to compulsory multi-employer bargaining, the majority has blindly approved the mutual aid agreement before us without attempting to explore or resolve the strong likelihood that multi-employer payments to a

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4. Act of June 21, 1934, 48 Stat. 1185. In the words of Federal Coordinator of Transportation Eastman, a proponent of the legislation, the amendments were intended "to perfect what has been done" in the **Railway Labor Act of 1926.** (Senate Hearings on S. 3266, 73rd Congress, 2nd Session, p. 10.)

5. **Administration of the Railway Labor Act by the National Mediation Board,** 1934-1957, p. 3.

6. While the **Railway Labor Act** prohibits unfair labor practices by employers, no comparable restraints are imposed on employee activity. The only significant employee duties in the Railway Labor Act apply equally to employers.

7. From the time of the notice of intended change in agreements which sets the **Railway Labor Act's** machinery in motion, no change may be made in status quo wth respect to rates of pay, rules or working conditions for (1) 10 days after negotiations have collapsed and the services of the National Mediation Board have not been utilized, (2) for 30 days after notification by the National Mediation Board, if its services have been utilized, that its mediatory efforts have failed; or (3) in the event of establishment of an Emergency Board, for 30 days after the report to the President.

8. Section 10, **Railway Labor Act.**

9. National Mediation Board, **6th Annual Report,** pp. 4, 5.

10. See Statements of Mr. Tipton, then General Counsel for the Air Transport Association of America, in informal hearing on Agreement C.A.B. No. 530, Transcript, pp. 56-63.

11. Not all air transportation work stoppages affect essential transportation. Note, for example, the 108-day Western Airlines strike in 1958, where the National Mediation Board declined to call for the creation of a Presidential Emergency Board. Other situations can be envisioned where, because of unaffected competitive services or the limited service scope of the struck airline, a work stoppage would not affect essential transportation.

12. **Emergency Board Report,** July 7, 1946.

negotiating carrier constitute the price for multi-employer representation.

Certainly the ultimatum[13] issued by Capital to the International Association of Machinists (Machinists) on October 22, 1958, two days subsequent to the effective date of this agreement and prior to the date on which it was filed with the Board, requires an examination. From the context of statements made by the President of Capital to us on October 21, 1958, it is reasonable to assume that the ultimatum was issued on behalf of other airlines, as well, and in reliance on the economic strength furnished by this agreement.[14] If, because of this agreement, the hostile attitude displayed by the parties at the time of the Capital ultimatum (an attitude in sharp contrast to the forebearance and absence of bitterness noted in Emergency Board Report No. 122),[15] will continue in the future, the purposes of the Railway Labor Act will be entirely frustrated.

In the majority's view there is no evidence whatsoever that any work stoppage was prolonged because of this mutual aid agreement or the attitudes engendered by it.[16] The majority also points to the ultimate settlement of the dispute between Capital and the Machinists on terms favorable to the employees as evidence of the innocuousness of the agreement and its inability to enable carriers to hold out longer.[17] The latter argument, of course, seems somewhat inconsistent with the former. But whether or not the agreement prolonged the Capital strike, and it appears that it did, the Railway Labor Act is concerned with prevention of work stoppages, and not with the settlement of disputes on terms particularly favorable to either side. In fact, one of the basic difficulties with this agreement, as with the earlier Airlines' Negotiating Committee agreement, is the tendency to make belligerents of negotiators. The almost inevitable result of the hostile attitudes produced by such agreements is the ultimate concession by one party, after a work stoppage, to terms highly favorable to the other party.

The Railway Labor Act, in contrast, contemplates the complete avoidance of work stoppages through mutual agreement, rather than the ultimate surrender of one side to the other. It is noteworthy that, while the carrier parties to the negotiations reported in Emergency Board No. 122 were preparing for all-out conflict, the Machinists and United sat down, in an atmosphere of mutual confidence and trust, and worked out an agreement satisfactory to both sides[18] without a work stoppage and the consequent public inconvenience. Similar preparation for peace might have avoided the Capital work stoppage as well.

Effect On The Duty To Negotiate

On its face, it is evident that reliance by the carriers on their combined economic power to enforce Emergency Board recommendations, instead of the good-faith bargaining required by the Railway Labor Act, will violate that statute.

As previously indicated, negotiations in good faith are essential to the success of the statutory plan. In the language of a recent decision,[19] "Such compliance (with the mandatory bargaining provisions of the Railway Labor Act) cannot be merely perfunctory. 'Good faith exhaustion of the **possibility** of agreement is required to fulfill it.'" (Emphasis added; footnote omitted.)

The National Mediation Board, in the past, has deplored the lack of maturity in air transport employer-employee relations, as evidenced by the frequent failure of the parties to resolve issues in good faith negotiations prior to mediation.[20] Yet, in the negotiations current at the time of execution of the agreement before us, no carrier,[21] with the exception of Eastern,[22] made any counteroffer until after the Emergency Board proceeding.[23] Despite the absence of early good faith bargaining, a fact which was noted with concern by the Emergency Board,[24] the carrier parties to this agreement characterized all requests made by labor, as well as those yet to be made, as "extreme and unreasonable." Whether the carriers had agreed to make no counteroffers, as was suggested in oral argument,[25] and whether any such pact laid the foundation for the instrument now before the Board, is impossible to determine from the meager information currently available to us. It is clear that any aggravation of the present tendency to defer genuine collective bargaining until a work stoppage is imminent will seriously impair the collective bargaining process.

It is clear, too, that this agreement will produce that result, since the incentives offered by the agreement do not become operative until the preliminary steps required by the Railway Labor Act have been exhausted **procedurally** (though not substantively), and until an Emergency Board has issued recommendations. The purpose of the agreement is to provide the combined economic power to enforce settlement of labor disputes on **whatever** terms an Emergency Board may recommend. The agreement thus aims at perpetuation of the tendency to defer bargaining until the issuance of an Emergency Board report, since its only effect on present bargaining practices is to make them more attractive.

This increased use of Emergency Board recommendations as a carrier's first counteroffer is an unequivocal violation of the bargaining mandate of the Railway Labor Act, since the statute requires good-faith bargaining **before** the creation of an Emergency Board. No carrier can know, during the negotiating period which precedes the establishment of an Emergency Board, what recommendations an Emergency Board will make or even if the creation of an Emergency Board will be recommended. As a practical matter then, the carrier cannot freely bargain in good faith if it intends to rely on Emergency Board recommendations, since it would thereby risk offering its employees more than the Emergency Board will ultimately recommend. The absence of good-faith bargaining during this period, however, is in flat violation of the Railway Labor Act. The result is well described in language of the National Labor Relations Board which has said: "Where negotiation is not entered into in good faith, where

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13. See **Washington Post and Times Herald** (October 23, 1958):
"Negotiations to settle the Capital Airlines mechanics' strike collapsed yesterday as both sides in the dispute took an **increasingly hostile attitude.**
"Hopes for an early resumption of operations by the Washington-based airline faded in the face of these developments:
"**Capital issued an ultimatum** to the 2474 striking members of the International Association of Machinists and scaled down its offer of wage increases by one cent an hour for every day the strike continues.
"**The union angrily rejected the ultimatum** and branded it as 'insulting.'
"Federal Mediator Francis A. O'Neill said the two sides had 'agreed to disagree' and the negotiations were stalled on 'dead center.' He said there was no point in continuing the conference."

14. **Transcript of Board Conference with President Baker,** October 21, 1958, pp. 13, 14, 15, 16, 20.

15. **Report** No. 122, p. 178.

16. **Majority Opinion,** p. 5.

17. **Ibid.,** p. 8, note 19.

18. **Oral Argument Transcript,** pp. 127-129.

19. **American Airlines, Inc. vs. Air Line Pilots Association,** 43 L.R.R.M. 2402 (December 12, 1958).

20. **Administration of the Railway Labor Act by the National Mediation Board,** 1934-1957; page 14.

21. The negotiations concerned involved six airlines and the International Association of Machinists. Three of the airlines, Capital, Eastern, and TWA are parties to the agreement under discussion. Of the six, only Capital suffered a work stoppage. Agreement has now been reached by International Association of Machinists on the one hand and each of the six airlines on the other. The terms of the agreement are, of course, unknown to this Board. The reasons why National, Northeast and Northwest have declined to become parties to this mutual aid agreement have not been furnished to the Board.

22. Eastern offered substantially less than the amount recommended by the Emergency Board; **Oral Argument Transcript,** p. 127.

23. **Oral Argument Transcript,** pp. 126-127.

24. See **Emergency Board Report No. 122,** p. 9: "We regret and deplore the fact that there was not more effective bargaining on wages prior to the creation of this Board."

25. **Oral Argument Transcript,** pp. 126, 127.

there is no real give and take, there is no collective bargaining."[26]

The majority argues that, since the mutual aid agreement does not entirely insulate a struck carrier against loss, ample incentive will remain for each carrier to bargain freely and earnestly during the periods designed for that purpose. The reasoning would be more impressive were it not for the fact that the carriers, heretofore, have been reluctant to engage in genuine bargaining until the eleventh hour. Since contemplation of unrecompensed total loss, in the event of shut down, did not deter the carriers from engaging in such poor bargaining practices in the past, the financial security offered by this mutual aid agreement can only reduce the incentive to bargain.

To evaluate the full impact of this agreement on future collective bargaining, it is imperative that we know all the circumstances under which it will be effective. Obviously, if the carriers can invoke this agreement during any strike, the threat to the continued existence of genuine collective bargaining in the air transport industry will be considerably heightened.

Looking at the precise terms of this agreement, we find it operative in the event of a strike: (1) called for reasons "which **include** the enforcement of demands in excess of or opposed to the recommendations of a board established by the President of the United States under section 10 of the Railway Labor Act and applicable to such party" (emphasis added); (2) "called before the employees on strike shall have exhausted the procedures of the Railway Labor Act," or (3) "which is otherwise unlawful."

The judicial remedies which the carriers gratuitously commend to the unions in the event that carrier practices exceed the scope of this agreement are available also to the carriers in the event of strikes called for reasons outlined in (2) and (3) above. We have been furnished with no reason[27] for believing that these judicial remedies, if adequate for the employees will not be adequate to protect the carriers against unlawful employee activity. If the remedies are inadequate, the cure lies in corrective legislation and not in the vigilante activity inherent in the agreement.

As urgently as the actual operation of provisions (2) and (3) preceding need evidentiary explanation, the most objectionable is provision (1) which relates to Emergency Board recommendations. For the effect of the word "include" in (1) is to make **the agreement operative in any strike effecting any of the carrier parties.** It may be invoked in aid of an employer whether or not (a) the employer has exhausted the remedies of the Railway Labor Act; (b) an Emergency Board has been established; or (c) the employer will himself accept the Emergency Board recommendations. This mutual aid agreement, then, in threatening economic warfare unless employees accept any and all Emergency Board findings, amends the Railway Labor Act's statutory plan in a manner which, from an employer's point of view, is just as effective as the elimination of the statute. This agreement has from an employer viewpoint all of the advantages of compulsory arbitration with none of its disadvantages; while Emergency Board recommendations will in contemplation be economically binding on employees, the carriers under the terms of the agreement will be under no compulsion to accept them.[28]

While it might be argued, for example, that the absence of payments to American, for the period of its strike, proves that the agreement will not be operative in any and all circumstances, this argument in my opinion is unpersuasive. As hereinabove indicated, under the letter of the agreement, the right to payments is not confined to circumstances specifically enumerated. Moreover, it is highly probable that if American is to continue a party to the agreement, it will be paid subsequent to the issuance of this opinion. In any event, since the threat of this agreement hung over the recent negotiations between American and its employees, the agrement was operative whether or not American will be paid.

The naked question presented then is whether this Board will approve the agreement even if operative in any strike, no matter how it is motivated, or whenever it occurs. The majority, in pointing to the legal remedies which were available to unions prior to the entry of this order,[29] answers the question in the affirmative. It is difficult to understand, however, how remedies which are inadequate for carrier purposes will suffice to safeguard the interest of employees, let alone the public, in the event of carrier activities which violate the Railway Labor Act. Aside from the differences in the nature of judicial relief which must be obtained, employees vis-a-vis employers, in the event of violation of the Railway Labor Act,[30] the employees, because of the majority's approval of this agreement, may well be required to pursue their remedies with this Board before judicial relief is granted.[31] If so, at least some question arises as to whether the majority's action has immunized carrier activity under the agreement from immediate or ultimate redress by the employees under the Railway Labor Act, prior to specific Board disapproval.

Whatever the employees' remedies may be, we cannot approve this agreement as not in violation of the Federal Aviation Act, the Railway Labor Act, or the public interest in either, if it permits, encourages, or results in carrier activities which violate either statute. Under our authority, it is not enough to say that the employees have ample remedies in the event of unlawful carrier activity. We are **without power to approve** any agreement between carriers which has resulted or will result in unlawful activity. In the absence of information responsive to the many questions arising under this agreement, we must disapprove it.

"Sauce for the Goose"

Neither the carriers nor the majority concede that a transportation necessity must be established before this agreement can be approved. I, on the other hand, do not concede that there can be a transportation justification for an agreement which is so clearly repugnant to the purposes of the Railway Labor Act.

This issue needn't be resolved in view of the antitrust law implications inherent in the agreement, implications which have always, in this Board's view, required affirmative justifica-

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26. **Written Trade Agreements in Collective Bargaining; N.L.R.B. Bulletin No. 4,** November 1939, p. 13.

27. Transcript, pp. 95, 96. One possible explanation appears in the uncompleted oral argument discussion of the American strike and its relationship to this agreement: a perhaps unintended implication exists there that unlawful strikes are those which have not been judicially declared to be lawful. Another explanation may lie in the possibility that a determination of illegality by an airline or airlines, under this agreement, does not, like a judicial determination, have for its purpose the prevention of strikes but the ultimate settlement of strikes on preconceived terms.

28. Acceptance of all Emergency Board recommendations would be the near equivalent of agreeing to compulsory arbitration, a process to which the carriers as a whole do not appear to be attracted. See **American Aviation,** February 23, 1959, at page 37:

"Constructive discussions, but little chance of action, seems to sum up Labor Secretary Mitchell's recent airline labor meeting. Management asked amendments to Railway Labor Act—secret ballot in strike votes, ban on jurisdictional strikes, time limit on length of mediation, no secondary boycotts. Airline labor leaders want no changes. Some carriers favor compulsory arbitration, but majority oppose it, as do unions. Congressional action on amendments is very unlikely this year. Airlines give higher priority to working out some form of group bargaining with unions."

29. **Majority Opinion,** p. 8.

30. The carriers' remedy in the event of failure to negotiate in good faith is injunction. **(American Airlines, Inc. vs. Air Line Pilots Association, supra.)** Employees, on the other hand, must obtain a decree compelling specific performance of the carriers' statutory obligations. **(Virginian Ry. vs. Federation,** 300 U.S. 515.)

31. Cf. **Brotherhood of Railways vs. Railway Retirement Board,** 239 F. 2d 37 (1956).

tion.[32] Such questions are always present where competitors agree to share excess earnings. Sharing profits with a competitor, like playing marbles "for fun" rather than "for keeps," is entirely inconsistent with the concept of vigorous competition between rivals. The carriers have been certificated to compete with, not subsidize each other. Air carrier subsidy, if necessary, will be granted by the Government as provided by Congress in section 406 of the Act.

In spite of the need for justification, no transportation necessity has been established. The carriers assert that since unions provide economic assistance to each other during strikes or lockouts, the maxim "sauce-for-the-goose-is-sauce-for-the-gander" provides the equity for comparable mutual aid among carriers. But we have no evidence of assistance given by other unions to the Machinists in the strike against which this agreement was first directed. The only assistance to the Machinists in the Capital strike was the payment of $10 per week out of their own strike fund.[33] That assistance neither furnishes the economic strength to prolong a strike nor justifies the payment of huge sums to a struck carrier to enable it to resist employee requests. To state the proposition is to reject it.

"The Record"

The majority blindly denies that the foregoing clear indications of violation of the Railway Labor Act unequivocally establish the agreement's illegality. Accordingly, the majority is forced to reconcile its grant of approval with discharge of its statutory investigative duties by a three step reasoning process. First in its "painstaking review"[34] the majority leans heavily on the failure of "the record" to provide unequivocal evidence of illegality. Second, the majority states that the Board **must** approve agreements under section 412 of the Act, in the absence of facts which affirmatively and unequivocally establish the agreement as in violation of the Act. Third, in recognition of the factual deficiencies of "the record," the majority imposed various conditions to its approval of the agreement.

Plainly, there is no "record" in this proceeding, nor can the transcript of oral argument be reasonably so designated. Oral arguments neither resolve, nor are they designed to resolve, factual questions. Since the majority argues that this agreement **must** be approved in the absence of facts which affirmatively and unequivocally establish its illegality, a refusal by the majority to provide an opportunity for evidentiary development of those facts is indefensible. Further, no one can argue that action on the agreement could not await more precise administrative fact-finding processes since section 412 agreements do not require approval prior to effectuation.

To assert that we must immediately approve agreements between carriers in the absence of affirmative facts clearly establishing illegality not only rules out the evidentiary process for section 412 agreements but conflicts, as well, with past attiudes toward the review of those agreements. We have repeatedly asserted that "where an agreement has . . . elements which are plainly repugnant to established antitrust principles, approval should not be granted **unless there is a clear showing that the agreement is required by a serious transportation need, or in order to secure important public benefits."**[35] I can see no reason for maintaining that a clear showing of illegality must be made by opponents of an agreement in one instance, and a clear showing of necessity must be made by proponents in another. If the difference is the immunization from the sanctions of other statutes which may be given by our approval, it must be recognized that Board approval here grants antitrust law immunity. It must be recognized, too, that while we have no power to grant Railway Labor Act immunity, the possibility that this Board may have exclusive primary jurisdiction over future allegations of Railway Labor Act violations because of this agreement may produce the same result.[36] Plainly, regardless of the burden of proof, the fact of the matter is that we cannot approve any agreement, unless we are completely satisfied with its legality.

The majority's imposition of various conditions to its approval in no way substitutes for that satisfaction. On the contrary, the very necessity for imposition of conditions speaks eloquently for the majority's dissatisfaction with the agreement as written and with the majority's lack of knowledge of the carriers' past and future operation thereunder. Astonishingly, in one of its conditions, the majority has stated that its approval shall not affect the rights of management or labor under the Railway Labor Act. The majority is required to decide, however, whether the agreement has operated or will operate in violation of the Railway Labor Act. If the agreement has had or will have that effect, it clearly affects the rights of employees adversely under that statute. The majority, then, has approved the agreement as not in violation of the Railway Labor Act, while, at the same time, denying that past or future violations of the Railway Labor Act have received or will receive the majority's blessing. If this approach is correct, then any section 412 agreement may be mechanically approved by substituting for factual analysis an admonition not to break the law. I cannot believe that Congress intended that we employ any such mechanical process or that our concept of administrative machinery take such a literal turn.

An unwillingness to hear evidence before rendering a decision is more consistent with *laissez-faire* concepts than with regulatory responsibility. As a regulatory body, it is our duty to be fully informed before deciding matters so clothed with the public interest.

We cannot approve agreements such as the one before this Board by pleading the absence of facts when the facts are available. Here, in spite of a prima facie indication that the agreement is repugnant to the purposes of the Railway Labor Act, the majority has granted its approval, not on an insufficient record, but in the total absence of any evidentiary record. In addition, this deficiency is aggravated by the fact that Bureau Counsel, normally the sole spokesman for the public interest, has neither participated in oral argument nor filed a statement of position.

From all of the foregoing, I conclude that "this mutual aid agreement must be disapproved as adverse to the public interest. The agreement strikes at the heart of the policy of the Railway Labor Act, a statute which embodies the wisdom acquired through years of trial and error in labor legislation. The public interest inherent in uninterrupted air transportation is not served by permitting management to pit itself openly and adamantly against good-faith bargaining with its employees. Air transportation will continue to progress only in an atmosphere of mutual management-labor respect and cooperation. It will not do so by permitting air carriers, in a private agreement, to rewrite the Railway Labor Act by silencing the employee's voice in the determination of his wages and conditions of employment."

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32. Cf. **Majority Opinion, p. 30; See also Isbrandtsen vs. U.S.** 211 F. 2d 51, 57 (2d Cir. 1954): ". . . the agency entrusted with the duty to protect the public interest (must) scrutinize the agreement to make sure that the conduct thus legalized does not invade the prohibitions of the antitrust laws **any more than is necessary to serve the purposes of the regulatory statute."** (Emphasis supplied.)

33. **Oral Argument Transcript, p. 142.**

34. **Majority Opinion, p. 16.**

35. **Local Cartage Agreement Case,** 15 CAB 851, 853 (1952).

36. **See Brotherhood of Railways vs. Railroad Retirement Board** (supra).

20-Year Pin Presented to Son of Deceased Captain

The 20-Year Pin of deceased Capt. Bill Angell, Local Council 32, Detroit, was presented recently in Washington to his son, Bill, Jr. Capt. Angell died as the result of a heart attack shortly before he was to have been presented the pin. Pictured is Capital President David H. Baker making the presentation while Capt. Angell's daughter, Lynn, and wife, Ellen, look on.

Pilot Authors:

What About the Weather

The June, 1959, issue of *Reader's Digest* carries another article by R. N. (Bob) Buck, well-known TWA pilot and author. The current article is entitled, "What About the Weather Captain." It is one of a series, which originally appeared in *Air Facts* and has been reprinted by the *Digest* in which Bob has taken complicated technical subjects and reduced them to interesting reading which the layman can understand. These articles have done an excellent job in pointing out to the general public the need for such things as water inerting, airborne radar, approach lights, and many other Association projects.

Cockpit

The new magazine, Airlift, is carrying a column by Capt. J. D. Smith, long active in ALPA air safety activities. The column, entitled *Cockpit*, deals with pilot problems and is written for both pilots and industry personnel.

Capt. Smith is ALPA Region I Air Safety Chairman, chairman of the ALPA Air Traffic Control Committee, a member of the runway visual range committee and takes part in many other safety activities.

Meet Your Officers:

CAPT. EDMUND P. RORDAM (EAL) is the Vice-President of ALPA Region II.

Capt. Rordam joined Eastern Air Lines in 1940, but his career was interrupted by World War II. He served four years with the Atlantic Fleet before returning to Eastern in 1946. Upon his return he became active in ALPA and in his words has taken part in the "usual hodge podge of ALPA activities" in addition to serving as Local Council Chairman, Vice-Chairman of the Negotiating Committee and now Vice-President.

Capt. Rordam is active in the Naval Reserve, and what little time is left after his flying, his Naval obligations and his ALPA duties is devoted to fly fishing and to his wife and two children. His son, E. P. Rordam, Jr., 17, is a student at St. Leo College, Fla., and an excellent baseball player. His daughter, 20-year-old Miss Anna Laura Rordam is a legal stenographer.

His flying began in 1936, and a year later he completed training at the Pensacola, Fla., Naval Air Station and was designated a Naval Aviator. He served three years with the Pacific Fleet at Pearl Harbor prior to joining Eastern.

Before his interest in flying convinced him piloting was his life's career, Capt. Rordam attended Louisiana State University for three years to study Aeronautical Engineering.

The Vice-President is well into the jet age. He flew the first revenue Electra from Miami to Newark on Jan. 4, 1959, in a block to block time of 2 hours 58 minutes. He is currently flying the Electra on the Miami to Montreal run.

Edmund P. Rordam, V. P. Reg. II

SOME OBSERVATIONS ON:

Human Factors In Air Safety

By Capt. J. D. Alexander
CALPA

The Author Offers Some Valuable Tips On Preservation Of Physical And Mental Health That Help Reduce Accidents.

ACCIDENT Investigation practices and techniques range from poor to good depending on the country involved. Regardless of the country or method, however, 48 per cent is the LOWEST statistical figure for accidents caused by pilot error, so this is accepted as being reasonably accurate. This figure is too HIGH. Courses in Accident Investigation are being accelerated to educate more investigators in improved investigation techniques for detecting cause factors of accidents in order to institute an effective prevention program which will reduce it.

There are often "root" causes of simple or complex nature which play a leading role in pilot error accidents. This article will discuss a number of these. Because of the complexity of human nature it is usual that, although present, they either are not realized or are concealed.

Since the highest percentage of pilot error accidents occur during the approach to land—when the work load is heaviest and the thinking time the shortest—suffice it to say that a clear mind and a healthy body are prime pilot requisites. The increased responsibility being heralded in on the commercial jet age automatically necessitates a hitch in our britches regarding our health and welfare. Surely we do not intend basking in complacency with a record such as that quoted in the first paragraph. The eradication of human error is a man-sized job, but I do not know of a more capable group than ours to give it a whirl.

Angels come in two categories—dead or alive—and the information included hereunder is intended to increase the longevity of the latter type in aviation. Human factors which affect safety include neuropsychiatric disorders such as psychoneurosis, emotional instability, fatigue, psychosis, disorientation, fatigue emotion, trial and error vs. direct learning, interference of habit pattern, motivation and emotion and emotional adjustment. Other factors such as heat, cold, exercise, sleep, rest, diet, alcohol, tobacco and drugs effectively lower efficiency. A brief explanation of these may help each of us to measure ourselves—since each one of us is affected by one or a combination of these factors.

Neuropsychiatric and Nervous System Disorders

A certain number of us have an unhealthy way of reacting to stress. So you do not like thunderstorms or you hate your wife. This causes internal psychic pressure which results in maladjustment. How do you know this psychic pressure? Well, apprehension is one symptom. Another is overemphasis of various types in emotional conflict. e.g. So your First Officer is a little dull, but did his mistake warrant a fit of rage like a clap of thunder? Or, on an instructional flight, because the trainee descends ten feet below the minimum altitude, the instructor grinds his teeth, changes fourteen colors, splutters and fumes, sags limply in his seat waving his hands weakly and explains to the student he has just written his own obituary. This behavior does not indicate superior supervisory ability. Quite the contrary—this man is sick and does not know it. The old adage "blind with rage" is a reality in the first example. Because of the outburst, a sudden rush of blood to the face and head causes temporary blindness as in a redout, and a possible near miss results. Also, now that you are all steamed up and cannot see or think straight, you forget the fuel cocks or wheels. Who can say it has not happened?

The most common complants from psychoneurotic cases are: excessive anxiety and fatigue, gastro-intestinal symptoms, insomnia and hyperactivity of the sympathetic system (this interesting system will be discussed later) which produces excessive perspiration, palpitation and extra systoles. If a good night's sleep does not revive your vim and vigor, if you have a feeling something terrible might happen, if you get a knot in your stomach and a couple of shots do not relax it, or if you suffer from morning sickness and you are a male, or if you go to bed real late because you cannot sleep anyway, you are sick and do not know it. Excessive perspiration, palpitations, and extra systoles cause red faces for two reasons: the obvious one of course, is who would not have a red face when sweating buckets in a cool plane in the middle of winter? Actually its nothing to be ashamed of, but your neurosis is showing.

We all know a few individuals who use alcohol indiscriminately. Here are

lads who are not only very sick but are headed for serious trouble, for a survey of a group of emotionally unstable pilots who drank excessively showed that 75 per cent were grounded permanently. Statistics are fairly conclusive that these men cannot win in the long run. The bad thing about alcohol, when it becomes chronic, is that eventually you resign your job because of your fear (caused by emotional instability) of being stopped and charged with drunken driving while proceeding to the airport to take your flight. In this predicament you are soon broke and unable to maintain the high cost of an alcoholic so you join AA, which is considered to be starting at the bottom. For those of use who yet have time to retrace our misplaced steps, a later section explains why we should start now.

The adjustment of psychiatric cases is quite difficult. First the medical officer must enjoy the complete confidence of the pilots ... ??? Observations may show that a pilot is becoming a bit wingy—there may be a change in his appearance, speech behavior, or loss of keenness for flight duty and poor judgment in decisions. He may take to drinking. This is where some soul searching is a good idea. Many pilots with neurotic tendencies or incipient disturbances would profit by psychiatric treatment, and, as they are rarely aware of the trouble within themselves, need help. Why would they profit by a trip to a head shrinker? Well, as an example, a pilot began feeling severe nervous tension and fatigue. He started drinking in public in uniform. Medical interviews revealed tempermental incompatibility with his wife, extramarital relations, loyalty to his children which prevented divorce, financial worries from overspending. Psychotherapy and a new location enabled him to continue his duties adequately although his emotional conflict persisted. A nonfatal accident precipitated heavier drinking which caused his release from his Company. After obtaining a divorce and a position with another airline, he finally crashed, killing all passengers and himself. This tragedy might have been averted by psychiatric treatment taken early, before his problems became unmanageable.

Emotional tensions resulting from the prolonged exercise of courage in adversity, or the inhibition and suppression of domestic or other conflicts, are perhaps the most important elements of stress. Unusual stresses on the organs of vision and hearing may also contributed to neuro-psychiatric disorders. If you are feeling the effects of any of the preceding and your holidays are due, by all means use them to best advantage—they may help you immeasurably. A 7,000 mile automobile tour is not recommended.

Ulcers, Kidney Stones and Diabetes

Who's got an ulcer or a sensitive stomach? That seems like a foolish question, doesn't it? Mainly because you think it isn't anyone's business. Actually, it is our business. When we are deadheading or on holidays with our families, we like to feel sure that your ulcer won't hemorrhage at 500 feet on final when it is too late for the First Officer to avert an accident. You see, this ulcer deal creeps up on certain individuals who are ulcer susceptible from a psychological angle. Certain stimuli, such as delays, apprehension associated with hazardous weather, mechanical failures, irregularity in meals and poor dietary habits, will accentuate the condition of a pilot who has an ulcer or who is predisposed to this illness. The emotional basis for this digestive disorder has been studied. In one investigation, 80 patients with peptic ulcers were divided into two groups. One was treated by dietary procedures while the other group was subjected to psychotherapy. The latter was taught: (1) the common principles of the physiology of digestion and the influence of emotion on the body, and (2) how to control or adjust to their emotional disturbances. At the end of the experiment, 85 per cent of those subjected to psychotherapy had negative X-ray films, whereas only a very small percentage of the other group showed any improvement.

As a change of pace, kidney stones are not uncommon, and when they occur you'll be glad to see any doctor, so this doesn't come under the soul-searching heading. But did you know that any person who allows himself to become severely dehydrated, yet perspires freely on long, hard flights is cruising for a kidney stone or something worse? Another disorder which means the end of your flying career is you become afflicted with it is diabetes mellitus (sugar diabetes). But how many of us realize that one cause of it is the gaining of excess weight as we get older? Both of these ailments have completely incapacitated pilots while in flight.

Mental and Physical Health Is Vital

Now, to get back on the track. All of us are aware that on numerous occasions our presence of mind and good judgment are of critical importance. Maximum ability must be available during peak loads of activity. If you are in poor physical condition from lack of exercise, lethargic from overeating, influenced by the after effects of alcohol, or emotionally maladjusted, you are subject to errors. The elements of surprise and the degree of panic experienced during emergency conditions lead to mistakes of judgment. Lowered efficiency causes such errors as confusion, inadvertent use of controls, forgetting to check instruments, failure of memory, judgment, or presence of mind. The ability to integrate the instruments as a unit tends to deteriorate also.

The Sympathetic System

As previously mentioned, an explanation of the sympathetic system is forthcoming. Here it is. The human organism possesses an unusual capacity for adjusting to the stresses and strains of an environment. The cells that comprise the tissues of the body are surrounded by an intercellular fluid that is in equilibrium with the blood. These fluids, among other things, are under the control of mechanisms which keep them remarkably constant in spite of great external variations. However, if alternations in oxygen, temperature, water, salt, sugar, CO/2 or acid-base balance are carried beyond certain limits, there are marked effects on the organism and behavior of the individual. The importance of maintaining this delicate balance and control of the organic constants by their automatic regulation is evident in the fact that the higher mental functions such as memory, judgment, insight, and reasoning are the first to deteriorate under the influence of stresses which alter such constants. The deterioration is usually insidious and unnoticed by the person experiencing it. Thus, if oxygen want, low blood-sugar or alcohol interferes with the constancy of the internal environment and its automatic regulation, a pilot is subjected to an insidious loss of his higher mental faculties. Furtheremore, if a pilot is in a poor physical condition and has alcohol in his blood the effects are greatly accentuated by the lack of oxygen at high altitudes. Even with pressurized cabins, oxygen want begins on the ground for heavy smokers.

The automatic nervous system is divided into two parts, the sympathetic and the parasympathetic systems. The sympathetic system enables the body to adjust automatically to emergencies involving such stresses as fear, pain, rage, extremes of temperature and oxygen want. It stimulates the adrenal gland. The parasympathetic system opposes the sympathetic, tending to restore normalcy to a body which has been forti-

fied for an emergency, and regulates the vegetative processes such as digestion of food. Experiments show that the autonomic system has direct connection with the cortical areas of the brain. This helps to explain the mechanism by which worry and other emotional stresses may contribute to such abnormalities as high blood pressure and peptic ulcer. Now, if you are thinking there is something to our old body and the way it works—just listen to this (read it aloud, it sounds even better). You are faced with an emergency, you go into action, the effectiveness of which depends on your physical condition. Why? Within your body the sympathetic system, by direct action on the various organs of the body, including adrenal stimulation, brings about the following adaptive reactions:

(1) Your heart rate increases providing more blood.
(2) The blood vessels contract in the internal organs thus diverting blood more rapidly to the muscles and brain.
(3) The air passages dilate increasing the ventilation of the lungs.
(4) The blood coagulates more rapidly in case there is injury.
(5) Glucose for efficient energy is release from the stored glycogen of the liver.
(6) Movements of the stomach and intestines are inhibited.
(7) The activity of the digestive glands is inhibited.
(8) The pupils of the eyes widen.
(9) Sweating is experienced, there are changes in the skin and the hair erects. (If a frightened individual states that his hair stood on end—possibly it did).

If you are in poor physical condition your adaptive mechanisms are less effective. For example, overeating diverts blood from the brain to the stomach. The presence of alcohol in the blood causes the automatic system and the brain to be depressed. In these or in many other conditions of poor physical tone or health the body cannot but react poorly to situations of fright or other difficulty. Obviously this old anatomical bag of bones we dwell in is a wonderful piece of equipment which is worth a certain amount of maintenance and care.

Exercise Is Important

"Exercise," wrote one doctor, "is a state of mind and when a person gets a feeling for it he should lie down until the feeling goes away." This may be good advice for someone whose daily work is physically strenuous. But for pilots, whose duties are sedentary, exercise is necessary and beneficial. Since fear equips the body for a struggle or for intense physical activity, any nerve wracking experience encountered in flight hops a pilot up with nervous energy he cannot use. A two mile walk after a harried flight is therefore recommended as it will relieve this tension and immeasurably improve your general well-being. Vigorous exercise when you are not used to it can be harmful. Exercise which retains muscle tone (not the body building type) improves coordination, precision, and endurance by increasing the efficiency of the muscular system. The heart beats slower yet supplies more blood. The lung ventilation is greatly improved. The body is more resistant to fatigue. Each of these benefits enhance safety.

Rest And Sleep

Adequate rest and sleep are very important to the pilot. Tests have shown that subjects who were deprived of all sleep for three or four days showed no deterioration in visual acuity, steadiness, blood pressure, or pulse rate. This may lead one to think that sleep is not too essential if you can see straight and remain healthy without it. The opposite is true, for without sleep there is marked loss of memory, occurrence of hallucinations, heightened irritability and great differences in attitude, including delusional statements. These conditions of behavior indicate the onset of a very unhealthy situation.

The Importance Of Diet

Among the variables which affect the overall efficiency of a pilot, there are few more important than food. Improper diet, overeating, constipation, and other digestive irregularities produce both mental and physical lethargy. The ordinary diet includes carbohydrates, proteins, minerals, fats, and vitamins. Proper proportions of each are essential. Carbohydrates provide the chief source of energy. They are muscle food and the fuel which can be used by the central nervous system. If carbohydrates are not used immediately they are stored either in the liver or muscle as glycogen.

Fats supply heat energy. They are valuable because of their caloric content and they contain the bulk of the fat soluble vitamins. Only small amounts should be consumed before a flight because, like oxygen want, fats slow down the digestive processes of the stomach.

Proteins build and repair body tissues, and if there is insufficient protein in the diet body tissue will break down to provide it. Because protein digests more slowly than carbohydrates a high protein diet is essential to maintain a lasting source of nourishment. Large quantities of protein should be taken after, rather than before, a flight. Meals high in protein increase the metabolism, resulting in a greater oxygen demand and a reduction in altitude tolerance. Conversely high carbohydrate intake results in a more efficient use of oxygen and greater carbon dioxide output per gram, which stimulates respiration causing a higher altitude tolerance. Due to poor oxygen efficiency with high protein meals, night vision is seriously impaired at altitudes as low as 6,000 to 7,000 feet.

Minerals are necessary and, while I prefer gold, others are more essential. Iron and copper produce hemoglobin, the blood substance which transports oxygen from the lungs to the tissues, and calcium and phosphorus for the bones, teeth, and body tissues and muscles. A deficiency of calcium and/or oxygen may influence pilots adversely because of muscle irritability. Iodine, sodium potassium and chlorine are needed to maintain the electrolytic balance of the body.

Vitamins are necessary for growth and development and the regulation of tissue functions. Vitamin deficiencies increase susceptability to bacterial infection. Vitamin A is necessary to maintain unimpaired night vision and healthy respiratory, digestive and urinary tracts. Vitamin B complex including thiamine, riboflavin and niacin, and Vitamin C are very necessary for a healthy body. Thiamine promotes appetite and helps the digestive tract and the nervous system to function. Riboflavin is essential for the health of nervous tissue, skin, hair and eyes. Niacin prevents pellagra (whatever that is). Vitamin C promotes healthy blood capillaries in the skin, gums, and other tissues. Vitamin C is important to pilots because it builds the strength of capillary walls which, in pilots, are subject to greater than normal stress due to changing atmospheric pressure. Did you know that an investigation of the diets of 170 pilots showed that 25 per cent were deficient in Vitamin A, 5 per cent had reboflavin deficiency and 34 per cent were lacking in Vitamin C. Bachelors and/or crews on layovers tend to neglect a balanced diet.

Alcohol

The physiological effects of distilled spirits are attributed to ethyl alcohol. In addition to alcohol and water, liquor contains congeners, which substances, small in quantity, give each type its

taste. Congeners consist of higher alcohols (fusel oils) and, although not toxic in the small quantity found in spirits, they are important because they slow down the rate at which the body disposes of the alcohol. These little numbers don't do the liver any good. Alcohol, unlike food, requires no digestion. It is freely soluble in the fluids and tissues and appears in the blood a few minutes after ingestion.

Habitual drinkers learn, through practice, to carry their load with less apparent effect than light drinkers, although both have the same blood-alcohol level.

Initially the process of oxidization of alcohol in the body begins in the liver. The body burns one third of an ounce of alcohol per hour—a relatively constant rate regardless of the quantity imbibed. Black coffee only simulates the brain which has been depressed by the alcohol.

Physiologically, the apparent stimulation by alcohol is overcompensation by the body for its effect on the central nervous system. Skin blood vessels are dilated resulting in an increased flow of blood to the skin. This produces a warm feeling but actually there is a loss of body heat due to radiation. Consequently the ingestion of alcohol during exposure to cold is not recommended. A drink before dinner does whet the appetite by irritating the mucus membranes but the contractions of the stomach are inhibited rather than increased. The amount of hydrochloric acid in the gastric secretion is markedly elevated, which does not help the ole ulcer. The digestive enzymes' function is actually impaired. Alcohol cannot build or repair body tissue. It contains no vitamins. It has a definite drug like action and toxic properties. Severe mental and organic ailments result when used in excess.

The effects of alcohol on behavior can be understood best by considering what it does to the central nervous system, especially the brain. The first effect of alcohol is the dulling of one's critical judgment and sense of responsibility. Then the intellectual ability of the more complex and highly developed parts of the brain are progressively impaired. The effects are insidious and errors of judgment are sometimes unnoticed by the person experiencing them. On *motor* functions there is a 21 per cent variation from normal values of eye movement or fixation on an object after the ingestion of 1½ pints of beer or two cocktails. On *sensory* functions, alcohol causes a very pronounced constriction of one's visual field. Ability to see at night or in low illumination is adversely affected. In the above mentioned test, after eight highballs the sensitivity of the eye was so impaired that a light twice as bright as normal had to be shone to be seen. On *mental* performance, memory, judgment and reasoning, attention and concentration are impaired. In studies of immediate memory for meaningful words, ability was reduced from 10 to 45 per cent after drinking from one to four ounces of whiskey.

Alcohol depresses oxidation in the cells, not by interfering with the transport of oxygen to the tissues but because the tissue cells are poisoned and cannot use oxygen properly. Thus it increases oxygen want at altitude, producing a degree of anoxia in addition to its other effects. Drinking and flying is more lethal than drinking and driving.

Tobacco

"Smoke, smoke, smoke that cigarette! Puff, puff, puff, until you smoke yourself to death!" That one time music hit by Phil Harris sure hit the old coffin nail on the head, didn't it? Lung cancer, thought to be caused by tobacco tars, is doubled in women smokers and is six times as prevalent in males.

Nicotine and carbon monoxide are the two other important products of smoking which affect health. Each cigarette contains approximately 2 per cent nicotine. A little of the nicotine burns, some is volatilized and enters the smoke. About 2.5 mgs. is present in a smoke and, if you inhale, this entire amount is absorbed by the body. If you do not inhale only 1.5 mgs. are absorbed by the membranes lining the mouth. A fatal dose of nicotine for an adult is estimated to be 50 mgs. although increased tolerance is developed in the habitual smoker. A package of cigarettes contains 50 mgs. in the smoke alone.

Carbon monoxide is the product of incomplete combustion of any organic matter. About 1-2.5 per cent of the total volume of cigarette smoke is carbon monoxide, while cigar smoke may contain from 5-8 per cent. Unlike nicotine, carbon monoxide, is absorbed only if inhaled into the lungs. Each cigarette smoked saturates 1-1.5 per cent of the body's hemoglobin with carbon monoxide. Between smokes it is eliminated, but a person who smokes 20 to 30 cigarettes a day has a hemoglobin saturation of between 5-10 per cent. If you acquire a headache from smoking your blood saturation has probably reached 20 per cent. Vision, however is affected by much smaller amounts of carbon monoxide.

A hemoglobin molecule's affinity for carbon is 210 times greater than it is for oxygen. Consequently the carbon monoxide inhaled is taken by the blood in preference to oxygen and an oxygen want results. In addition, because the hemoglobin carrying carbon monoxide are inactivated, the other hemoglobin hang on to their oxygen and do not release it easily to the tissues. A state of oxygen deficiency in the body tissues results. Thus an individual at sea level with 5 per cent carbon monoxide saturation is already at 8,000 feet, and with a saturation of 10 per cent his physiological altitude is 12,000 feet.

Once carbon monoxide enters the blood it leaves very slowly. About six hours is required to eliminate one half of that initially present; and if, after a heavy smoking orgy, your tongue is like a chunk of old leather and your mouth tastes like the bottom of a birdcage, there are still appreciable quantities in your blood and you have a carbon monoxide hangover.

The immediate ill effects of tobacco are: (1) reduced dark adaptation and poor light sensitivity of the eye in dim illumination (2) increased hand tremors (3) effects on the blood vessels and the heart such as a rise in blood pressure, an increase in the pulse rate, and a decreased flow of blood to the skin caused by the constriction of small blood vessels.

Fatigue

I read an interesting article about this subject by Capt. E. R. T. Park of the Canadian Air Line Pilots Association. More could be written because there is always something new to learn. For the time being however, as I am suffering from fatigue myself, I'll leave you. For those readers who are still with me—if you think *this* article is long, you should have read the book I gleaned it from—it has 800 pages.

Besides being long reading there is much thinking for all of us in this article. Anyone might have an accident due to inability to cope with a situation because of one or some of the physical troubles or abuses outlined herein. You, and you alone, must decide if you are living up to your responsibilities in all ways—including physical and mental fitness.

P.S. For the benefit of pilots between thirty and forty years of age who insist they are not affected by anything mentioned here, because they are pretty hot pilots with lots of experience, I issue this warning—BEWARE—statistics prove that accident rates increase sharply in this age range because of overconfidence.

(The motivation and desires of ALPA's members play an important part in the development of Association negotiating policy. They also influence emergence of leadership and institutional needs within the Association. This article, the second of three adapted and condensed from the report of the Wage and Working Conditions Committee at the 15th Convention, covers these aspects.)

Pilots have employers. Doctors and lawyers are self-employed. Pilots and their employers have differences which must be resolved. At this time we must rely upon the machinery of the Railway Labor Act and other "trade unions" methods to resolve these differences between us and management. Nevertheless we must continue to strive for a greater professional status and not allow ourselves to make a crutch out of "trade union" tactics. In our case, even the most ardent advocate of the "strong union" must admit the benefits of social responsibility, proper authority, a respectable voice in legislation, self discipline, and having recognized experts in every aviation field acting as his ambassador in public forums and so forth.

A pilot worthy of any professional consideration as a competent transport pilot must have definite character traits of individualism and self-reliance, yet the very foundation of union structure is cooperation. Individualism and self-reliance, in many aspects of our professional life, must give way to group interest and a conformity with the goals determined by our combined intelligence. This necessary surrender of self-reliance and individualism conflicts with the basic nature of pilots and is the actual factor causing many complaints from the members.

The pilot reacts favorably to ALPA membership in proportion to the strength of his personal belief that ALPA will reduce his frustrations and anxieties and will further his opportunities relevant to the achievement of his standards of successful living. He reacts unfavorably if he experiences the belief that ALPA increases his frustrations and anxieties and fails to achieve his standard of successful living.

Needs, Frustrations, Anxieties

The list of economic, psychological, and social needs, the frustrations and anxieties of pilots is interesting. Some of the more universal ones are:

1. Desire for better living standards.
2. Desire for shorter hours.
3. Desire for higher safety standards.
4. Protection against unemployment.
5. A larger share of productivity.
6. Protection against unjust disciplinary actions by the company.
7. Protection against unjust disciplinary action by the courts.
8. Protection against unjust actions by flight licensing and regulatory bodies.
9. Protection against unjust physical standards requirements.

For ALPA To Provide What Its Members Desire, The Inherent Pilot Traits Of Individualism And Self-Reliance Must Be Balanced With The Group Interest, Goals, And Combined Intelligence.

10. Relief from double standards of physical competency.

11. Insecurity of jobs due to ever increasing demands of ability and competency.

12. Protection against continuing cumulative effects of high altitude flying.

13. More attention to individual grievances.

14. Fear of sickness or accidents.

15. More recognition of flight personnel ability in daily operation of the air lines.

16. Realistic rules to fly by.

17. Realistic retirement.

18. Better communications channels to top management.

19. More professional status.

20. Protection against dangerous cargo.

This list, though not a complete one, would fit almost any employee. However, some of the factors listed are more critical for the pilot due to the unusual nature of his work.

A broad summation of the motives and needs of pilots could, perhaps be stated another way. He needs and expects the Association to provide reasonable progress toward the experience and assurance of the society and respect of other people, the degree of comforts and economic security possessed by the most favored of his customary associates. He expects independence in and control over his own affairs, understanding of the forces and factors at work in his world, and integrity from the Association. It is not enough for the Association to provide these services! The pilot must know these services are being provided. As has been said in the vernacular—"First you gotta tell 'em you're gonna do it, then you gotta do it ,then you gotta tell 'em you done it."

The wants and needs of pilots are infinite. This produces large orders for the Association and the members, who through their support or lack of support, have the ultimate responsibility for success or failure in the attainment of these goals.

Responsibility

Acceptance of organizational responsibility is the most difficult job of the member. He needs complete information, the checks and balances of democratic processes and exceptional leadership if he is to meet this responsibility. Exceptional leadership is difficult to obtain in a trade union. Because of the complexity of union activities and the resulting frustration of members, the man who occasionally gets the job is the one who damns the company the loudest and makes the strongest oratorical demonstrations at meetings. When this happens, representation suffers.

Such a character trait is often the mark of immature thinking. Sometimes, the type who appeals to a group meeting is the sly type who is skillful in the use of veiled insinuations, double dealings, and trickery. These men, who openly propose dishonest and unfair tactics toward the employer, will excuse their own actions the same way when they use the same methods in dealing with their fellow pilots.

Politics and day to day union business are wearing things and sometimes exceedingly dull. Pilots are intensely human people. Most of them have families and all the ties, interests, and vexations of family life. Meetings and committee activities are sure to take second place many times on the members' calendar of monthly duties. Almost inevitably the management of ALPA affairs passes into the hands of the active few. The mass of the membership usually feels the need for leadership and is glad to have someone look after the collective affairs. This attitude of some rank and file members toward their affairs is lamentable, and places the member, and the leader, in an almost impossible position of trying to maintain an efficient business, an effective fighting machine, and a political democracy by long range mental telepathy. Correction of this problem can only be obtained through better understanding.

Qualities Of Leadership

We need qualities of leadership in our representatives, not qualities of servitude. A democratic government cannot last without these qualities in its leaders. Pilot representatives are placed in the position of attaining knowledge and experience the average member cannot possibly obtain. If the representative does not use this knowledge to lead, he is derelict in his responsibility. Often public opinion, and pilot opinion, is formed from a snapshot view of a problem, whereas the leader can make evaluations based on a wide screen view of the same problem. The member certainly has the intelligence to understand but seldom takes the time to acquire the knowledge. This is not an argument that leaders acquire knowledge through experience and therefore they should tell the member what to think and do. We know that knowledge does not insure understanding and that understanding does not give license to dictate. The Association's By-Laws and Policy Manual must always set the boundary of the latitude and responsibility of our leaders, but within these boundaries they should be free to lead.

If a pilot representative allows himself to be governed entirely by the opinions of his friends at home, no matter how devoted he may be to them, he throws away all the advantages of long preparation and study, and becomes a rubber stamp exponent of popular opinion which may change in a few days. A vote of the pilot representative in ALPA comes after a pattern of discussions which start with an individual and usually progress through Local Councils, Master Executive Councils, and sometimes special committees. Much time is spent by many people before a subject comes to vote where it makes by-law or Association policy. Few members follow the tedious course of such issues. If a pilot representative allows his vote to be simply an echo of current opinion, and not the result of mature deliberation, he becomes a 4 cent stamp instead of a statesman. We must continue to have men of integrity, intelligence, and maturity to lead this organization. Their problems, as well as those of the membership, must be better understood to make their leadership most effective.

Discouragements Of Leaders

The leaders of ALPA are often discouraged and frustrated by the seeming inadequacy of democratic processes. The record of rapid turnover of LEC members is mute testimony to the difficulty representatives have found in simultaneously being chairman of a debating society and a battle commander on the front line. At a crucial moment he calls the troops together for a mass meeting. He explains their position, the opposition's position, and in laying the plan of action before them seeks to win their approval of the program. At the same time, he steps out of his role as chairman and takes on the role of commander and "puts over" to the meeting what he deems essential, after long study of the problem, to the success of the campaign and the welfare of the organization. While the chairman knows this is necessary to get the job done, he also realizes the members will curse him alternately for being a "timid general" and a "railroading" chairman. This conflict will probably always exist in our organization. Members are sometimes more radical than experienced representatives because they do not have the burden of responsibility. The member does not make exhaustive study of issues nor does

he react to industry pressures, government pressures, and political pressures, as the more responsible leader must. Every experience the representative has tends to make him more responsible. In his contacts with company executives, legislators, government agencies, other labor leaders, and international leaders he is constantly reminded of the organization's responsibility to society as well as to the member. He may even fall victim to the "mahogany table." The mere fact that he realizes the power of the companies, and is forced to recognize the limitations of employers to meet certain demands makes him suspected of being a "mahogany table" victim. The dilemma is further complicated by the necessity for stability of leadership which is demanded by the ever increasing size and intricacy of ALPA activities and structure. Frequent changes in leadership create inefficiency, and general political indifference, membership inertia, and the conflict between representatives and members provides little encouragement for stable leadership. Lacking a better solution for this problem other unions have built a "machine" to insure stability. The machine produces a bureaucracy. The bureaucracy develops into a strong centralized government, and when the reins of this type union are grabbed up by the wrong type leader, it is very difficult to restore balance.

Avoiding Dictatorship

ALPA, fortunately, is far from this type organization at this time. However, the separation between leaders and members, the organizational needs of the institution, and external pressures could conceivably create an atmosphere conducive to the growth of bureaucracy and eventually dictatorship. This must be avoided.

ALPA has an institutional life and needs of its own, beyond the lives and needs of the members and representatives. The members need economic, social, and psychological benefits. The institution needs strength, power, prestige, and protection against competition in order to provide these benefits. Many times, in local pilot meetings and even across the bargaining tables, the institutional needs clash with the individual member's "needs" or desires. This promotes internal conflict unless these differences are recognized, discussed, and composed. Nothing is more frustrating for the representative than failure of membership support on a vital institutional need—unless perhaps the member feels equally as frustrated if an institutional need is strengthened at the expense of his individual position. The institution and the member are inseparable, surely, but it is important to note that their needs sometimes are different and it is often very difficult to determine which need will be of greater total benefit, to the combination.

The institution must show a vision in its social responsibility, its safety programs, legislative endeavors, and other cultural functions that will frequently be beyond the outlook of the average member and appear to be utterly meaningless to him. This necessity frequently gives rise to the misunderstandings and frustrations which develop between members and representatives. These necessities are of great importance and must be recognized. They form out of the customs, laws, traditions, conventions, and the techniques and material requirements of our social system. These are the things that bind our social system and our organization together. Society recognizes this in government. We must also recognize these principles in our organization.

Reform-Type Organization

ALPA has always been a reform-type organization rather than revolutionary. We seek to modify social, economic, and political conditions to satisfy our concept of just and unjust. Revolutionary unions go much further. They seek to superimpose their will, forcibly is necessary, upon society without due consideration for the human equities involved.

In addition to being a reform-type organization, which describes our attitude toward economics and politics, ALPA is also involved in self-help programs which endeavor to provide improved health, safety practices, insurance, legal aid, legislative action, and many other aspects of member welfare. The organized seeking of these benefits gives our members many advantages when compared to the individual's ability to secure these benefits alone.

We support capitalism and the democratic form of government, and also consciously, or subconsciously, oppose any drastic changes in these free economic and political systems; for this reason we prefer collective bargaining methods. We must strive to maintain these principles of reform unionism and oppose the practices of the revolutionary types. Some of these unions employ the well-known practices of racketeers. They have even been known to use "gun point" terroristic practices to force demands upon employers. The "easy way" of revolutionary tactics are formidable traps to fall into during times of emotional stresses that accompany the provoking processes of bargaining, grievances, and solving internal problems. ALPA must avoid these pitfalls at any cost.

The most important tool for improving our policies is understanding. If the member and the representative understand the problem, if they understand the proposed solutions, and if they know how conditions may alter the problem and the proposed solution while we seek means of attaining these goals, then we have a working relationship that will succeed.

Negotiations

The Wage and Working Conditions Committee at the 15th Convention submitted a 112-page report containing many recommendations and guides for action. These, of course, covering many areas and are too voluminous to report here.

Specific actions taken by the Convention on individual topics are probably not as important as the action taken to govern the negotiating processes for more effectiveness.

The Association has continued to increase rapidly in membership and in the number of separate pilot groups represented. In January of 1950, there were 6,274 active members. By January 1, 1957, the active membership had grown to 11,288. In the last year alone over 1,700 additional members were added. It is now 17,707. The Association now represents the pilots of 49 air line companies.

Not only has the Association grown in size but, along with this growth in membership, the Association's negotiating functions have broadened and increased in complexity. Although, when measured in terms of accomplishment, pilot negotiations have been generally successful, there is always need for further improvement. In view of the increasing scope and complexity of negotiations and the overriding importance of this function if the membership is to be properly represented, it has become necessary to revise present negotiating procedures. The primary purpose of such revision is to introduce greater efficiency and continuity into the negotiating process, consistent with overall Association policy and objectives.

(Next month: The broad negotiating program set up by the 15th Convention will be discussed in the third and concluding article of this series.)

FAA Ducks Safety Questions Behind Emotional Smokescreen

On May 15, ALPA President Sayen wrote FAA Administrator Elwood Quesada raising serious safety questions concerning problems which the FAA in more than six months of existence, and its predecessor organization, so far have done little or nothing about.

In addition to these questions, the Association justifiably complained about the action of over-zealous FAA inspectors (some of whose normal jobs are maintenance inspection) holding stop watches on pilots during absences from the cockpit. The Association pointed out that it felt that there were safety areas requiring primary attention while manpower and time were being needlessly wasted by such action.

The Association also made it clear that it concurred "with the necessity of having two qualified pilots on the flight deck at all times."

In this respect, the Association letter stated:

We have long concurred in the necessity of having two qualified pilots on the flight deck at all times and we have made recommendations for many years to the Federal Aviation Agency on this subject. To this date, the only concrete action that has been taken by the FAA was your letter regarding the pilot in command visiting the passenger cabin and the recent actions by your inspectors. We have pointed out to you that under your present regulations, only the pilot in command of the aircraft is required to be qualified in the particular aircraft being flown. We have repeatedly requested that the regulations be revised to require that the copilot also be qualified and provided with a type rating on the particular aircraft to which he is assigned and that he be given the opportunity for periodic training. We have pointed out to you that if something should happen to the pilot in command, insofar as the federal regulations are concerned, the copilot is not required to be qualified on the particular aircraft and the third man in the airplane is not required to be able to fly at all. While we (ALPA) have been taking positive steps to provide protection for the traveling public in these areas, the Federal Aviation Agency has done little or nothing.

..SLOW DOWN! UP! CAREFUL!
WATCH OUT FOR THAT CLOUD BANK..!'

DENVER POST

We would also like to point out once again that food poisoning, diarrhea, a bird through the windshield, and many other common occurrences can completely incapacitate the pilot in command and that under your present regulations, no protection for the passengers is afforded.

An occasional trip by the pilot in command to the passenger cabin to carry out his statutory responsibilities is the least of our worries. We have major air safety problems in this entire crew qualification and training area, in the air traffic control area, in the inadequacy of our airports, in providing the pilot in command with adequate tools with which to work including airborne radar, in insuring that the carriers' training programs are adequate, and in many other major safety areas. You are still permitting, under the federal regulations, a two pilot crew to fly over twelve hours in international operations. In other words, these two pilots can be scheduled to fly jet aircraft for twelve continuous hours or 6,000 miles or more without relief. If the actual flight time exceeds the schedule, insofar as the regulations are concerned, the two individuals can find themselves faced with flight assignments longer than twelve hours. Now you say they are also supposed to remain continuously strapped in their seats.

On June 12, the Administrator, in a 1600-word letter which he released publicly answered the Association's letter, devoting the entire 1600 words to endeavoring to create the impression that ALPA was opposed to safe cock-

pit practices but not presenting a word in answer to the questions of safety raised by ALPA.

The following statement was issued by the Association in reply to Mr. Quesada's June 12 publicly released letter:

"Evidently Administrator Quesada completely missed the point of our correspondence and rather than reply to the safety problems raised, has chosen to play to the grandstand by a public release.

"The Association raised a number of serious safety problems with the Administrator. They are serious problems which come under his responsibility. In reply, we have received an emotional diatribe attacking the Air Line Pilots Association and its members. This is hardly appropriate to the high office and responsibilities accepted by the Administrator. We have a right to expect better performance.

"What is even more important, the Administrator has completely missed the point of the safety problems raised by the air line pilots. He has attempted to convey to the public that the air line pilot is conducting himself irresponsibly by filing a complaint with the Administrator. If Mr. Quesada is to be so 'thin-skinned,' he has rough days ahead. Additionally, we will compare the safety records in civil aviation of this organization and its members with any institution in our society. He is also attempting to mislead the public into thinking that all of their problems will be solved by reliance on the 'see and be seen' concept which every responsible individual in aviation concerned with safety has condemned as obsolete four and five years ago.

"We will reply to Mr. Quesada's diatribe in due time," the statement concluded.

New Aviation Course

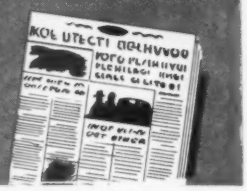
A 76-hour course for aircraft accident investigators will be given July 13-24 by the University of Southern California at its Los Angeles campus.

Aviation Safety specialists of the University will describe how to conduct an aircraft accident investigation. Areas to be covered include collecting and interpreting evidence, interrogation of witnesses, determination of accident causes, preparation of accident reports and the application of findings to accident prevention. Study will include not only recognition of material failure but also human factors in aircraft accidents.

Instruction will include laboratory demonstrations and actual investigation of crashed aircraft.

As Others See It

Excerpts from Comments in The News of Interest to Pilots



Air Line Pilots And Air Safety

Text Of A Newscast By Alex Drier On NBC's Monitor Program Based On ALPA Recommendations For Safety Improvements.

The men who actually man the nation's great commercial air fleets would have a word with you . . . and with the owners of the planes they pilot through the sky day and nite, and in fair weather and sometimes foul. There are some changes they would like to see made. As you might suspect . . . the major changes are in the area of greater safety. The pilots—through their Air Line Pilots Association—are calling for a federal regulation that requires all commercial aircraft to be equipped with airborne radar. This—they contend—is one safety device that is available and need not be held up by research and development. They also charge that only one major air line in the nation is 100-percent equipped with airborne radar . . . and while many have radar on their newest planes . . . some lines have no radar at all.

Radar . . . say the pilots . . . would allow the airplane jockey to avoid areas of turbulence and icing . . . and would help out in terrain clearance. Plus-factors for the aircraft companies would be better passenger comfort . . . lower maintenance cost . . . and shorter flight time.

So much for radar. Now . . . say the pilots . . . how about daylight exterior lighting systems on all planes to lessen air-to-air collision hazards. There have been two mid-air collisions in the U. S. which involved passenger airliners within the last year. And a third occurred in Italy. The pilots point to a bundle of statistics showing "close calls" that the public rarely hears about. Daylight lighting on the plane would help avoid such "close calls," say the pilots. And they also add a plea for a real proximity warning device, charging that to date no reliable indicator for determining the nearness of one aircraft to another has yet been developed. Pilots . . . now . . . have to depend on ground procedures to keep aircraft separated . . . and that's not enough.

The pilots call the proximity warning device "the key to helping return the most efficient Air Traffic Control known"—the man in the cockpit maintaining his own separation from other air traffic. At present . . . the limitations of human eyesights . . . and the added problem of fast-closing speeds . . . prevent pilot control over such situations.

The pilots also have a gripe centered on the ground: They take the operators of airports to task for a variety of ills which plague all pilots. Among these are such things as inadequate, substandard or marginal approach light systems . . . runway visual range equipment . . . high-speed turnoffs . . . standard runway markings and a lack of sufficiently long runways to use in high cross-winds. They also charge that too many airport operators are conducting horse-and-buggy activities in the jet age . . . and that their reluctance to install adequate facilities is holding up the jet age. The charge implies that the aircraft men on the ground are failing to keep abreast of aircraft technocracy.

It's hard to dispute these "gripes," especially that last one. For it is true that many of the nation's airports present a bottleneck in the development of the jet age. And the pilots say that installation of known and proven landing aids would have prevented at least 12 air line accidents in the last two years. Each occurred within one minute of touchdown on an airport. The pilots also are unhappy about the progress of field conversions to jet operations. They say the planes will be ready long before the fields to land on will be in operation.

Gripes? Sure they are. And if they are valid . . . and we have no reason to doubt that they are . . . we can thank the pilots of America for leading the fight to make the world's safest air lines . . . even safer. And we can thank them too . . . for not sweeping the problems under the rug. They needed airing . . . and the sooner . . . the better.

Study Shows Threat Of Foreign Competition

In an unprecedented move, a group of ALPA Pan American pilots is conducting a self-financed campaign to combat the growing competition of foreign air carriers. Their report, entitled *International Air Line Route Structure,* was compiled during the past year and is now being circulated in Washington.

As its introduction states, "This material has been compiled and presented by a committee organized by and composed only of pilots in the employment of Pan American World Airways. The opinions presented herein represent the position of only our pilot group and are intended to convey conclusions that have been reached as a result of our years of experience and observations of events in international aviation."

The problems pointed to by the report are:

▸ No World War II or Korean War veteran who joined Pan Am as a copilot has reached the status of captain. Some copilots have more than two million miles in the air.

▸ Alaskan operations have shrunk 30% since 1951.

▸ There were more captains on the pilot seniority list 14 years ago than in the spring of 1958.

▸ Personnel at the Miami headquarters of the Latin American Division has been reduced 5%.

The pilot group, headed by Capt. A. L. Propps, has been encouraging members of Local Councils throughout the air line to write their Congressmen and Senators.

In The Offing: Better Visibility Observations

The Federal Aviation Agency reports that by the beginning of next month sequenced flashing lights on the centerline aproach light system will be operating on 35 runways. Thirteen more will be in use by July, 1960.

Those facts were included in a reply to ALPA communications calling for better visibility observations at airports when weather is at or near minimums.

The FAA replied that it now recognizes Runway Visual Range (RVR) as a fundamental part of the landing system, is so programing it and is taking under advisement the Association suggestion for interim reporting of variable visibility restrictions along the runway.

The Weather Bureau is engaged in the RVR program and plans to match the FAA's installation of ILS systems and standard approach light systems. RVR on the ILS runway is currently in use at Washington National, Newark, Idlewild and Los Angeles. Weather Bureau plans indicate RVR should be operating on 25 more runways by November of this year and on a total of 48 runways by July, 1960.

Additional lighting funds requested for the next two fiscal years permit RVR on all but 34 of the 229 runways to have ILS by the end of 1963. RVR will be added as individual lighting projects are finished.

The Weather Bureau has requested funds for fiscal year 1960 to provide the necessary equipment for ALCH (Approach Light Contact Height) information at 13 runways. In the following years, funds for such equipment will be requested for each ILS runway.

Start New Service

Pan American World Airways will began jet service July 20 between North and South America with the Boeing 707. The 5,444-mile trip linking Caracas, Buenos Aires, and Asuncion with New York will take only 11 hours 35 minutes.

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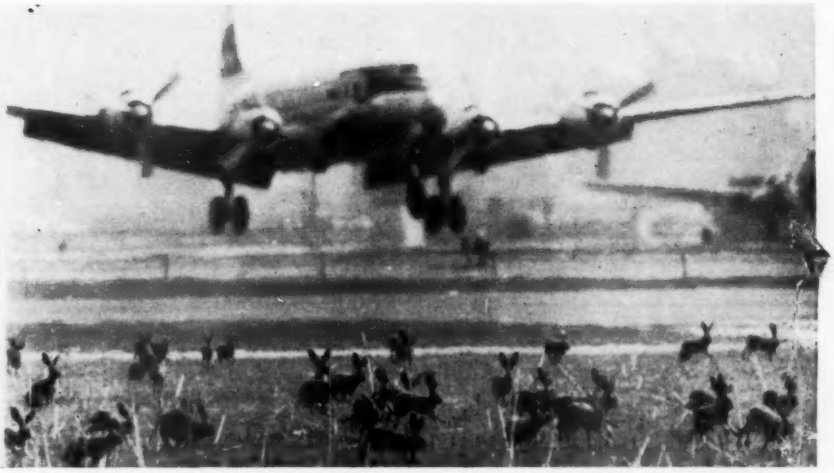
Watered-Down Federal Aid Blow to Airport Development

Installation of many critically-needed airport aids—such as standard ALPA centerline approach light systems, surveillance radar equipment, runway visual range equipment, narrow gauge flush runway lights, high speed turnoffs, standard runway markings, and enough runways for use during periods of high cross-wind—is threatened in many locations, at least for the immediate future, by failure so far of Congress to provide funds in anywhere near sufficient proportions to do the job.

Early this year, an airport aid bill was authored and introduced by Senator Monroney and passed by the Senate on February 6. It provided 100 million dollars a year for each of four years, along with 65 million immediately available for adequate development of airports with especially urgent needs. It specifically excluded "bars, cocktail lounges, night clubs, theaters, private clubs, garages, hotel rooms, commercial offices or game rooms or such other use which . . . is not essential to the welfare and safety of those persons using airports for public aviation purposes." Later the House passed a bill that provides for only 63 million a year for each of four years with an additional 45 million available later—20 million in 1961, 15 million in 1962 and 10 million in 1963. The House action, which cut the Senate bill by 33 per cent, would have banned the use of federal funds for terminal buildings except for control towers, weather services and a few other areas used exclusively by the government.



At Los Angeles International Airport A Three Way Battle Is Underway. Planes Kill Rabbits And Their Bodies Attract Buzzards Endangering The Planes.

However, under the threat of a veto, the measure as originally written has been abandoned because of the futility of passage and a stop-gap measure substituted. It was sponsored by Senator Monroney, passed by the Senate on June 15 and extends the present airport aid law at the rate of $63,000,000 until June 30, 1961.

Senator Monroney said he offered the new proposal with great reluctance but that "half a loaf is better than none," and pointed out that it was necessary to do something because the present law expires June 30.

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